# FACTORS AFFECTING WEEKEND-COLLEGE STUDENT PARTICIPATION

By

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Abstract of Dissertation Presented to
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# FACTORS AFFECTING WEEKEND-COLLEGE STUDENT PARTICIPATION

By

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The purpose of this study was to assess the influence of four demographic variables and the six variables found in Cross's Chain of Response Model on part-time adult collegiate participation in education. The following research questions were posed: (a) Is job type related to level of participation? (b) Is type of work setting related to level of participation? (c) Are there differences among groups of low, medium, or high participators in terms of educational attainment and age? and (d) Are there differences among low, medium or high participators in terms of self-evaluation of ability, attitudes towards education, goals and expectancy, life transitions, opportunities and barriers, and information?

An ex post facto design was employed in the present study. Data were gathered through the administration of a survey instrument to 220 adult undergraduate students enrolled in a weekend-degree program at a Florida liberal arts college. The response rate was 98 percent. The instrument consisted of six Likert response subscales, one corresponding to each variable in the Chain of Response model and a section of items on demographic characteristics. Content validation of the instrument was established through a literature review and the expert judgment of a qualified jury. Prior to its use in the survey, the instrument was pilot-tested on 65 subjects and minor changes were made. Internal consistency coefficients were computed using Cronbach's alpha.

The findings of the present study were mixed. First, there was no significant association between job type and participation level using chi-square analysis. Second, there was no significant association between work setting and participation level using chi-square analysis. Third, a discriminant function analysis revealed a significant relationship between levels of academic participation and the two predictors, educational attainment and age. Fourth, a significant relationship between participation and the six variables in the Chain of Response Model was detected using the discriminant function procedure. Univariate analysis of variance identified differences between low and high levels of participation as a function of self-evaluation of academic ability. No other differences were found among participation levels and the remaining variables.

# CHAPTER 1
# CONTEXT OF THE STUDY

## Introduction

Between 1970 and 1983, part-time undergraduate adult collegiate enrollment rose from 28 percent to 40 percent of all undergraduate enrollment (Carnegie Foundation for the Advancement of Teaching, 1986). The fastest growing arena of higher education is part-time adult academic participation (Wagner, 1982). Although there have been several studies of adult learners (Cross and Zusman, 1979; Lechman, 1975; Olski, 1980; Sosdian and Sharp, 1978; Vinson, 1982), these studies have not produced a theory that adequately identifies the critical characteristics of adult learners nor the degree to which such variables influence their academic participation.

In the landmark multivariate analysis of the influence of eleven demographic independent variables on participation in American higher education, Anderson and Darkenwald (1979) were able to explain only 10 percent of the variance, leaving 90 percent unexplained. In their study, Anderson and Darkenwald (1979) concluded, "Educational attainment and age exerted the greatest independent effects on participation" (p. 23). Occupational status and work setting showed "moderately strong positive effects on participation"

(p. 23). The remaining variables (sex, race, western states residence, veteran's benefits, suburb, income, and full-time employment) exhibited very small independent effects. Anderson and Darkenwald's (1979) study illustrates Cross' contention that "one of the most underutilized vehicles for understanding various aspects of adult learning is theory" (1981, p. 109).

In commenting on the four theories of adult academic participation (Boshier, 1973; Miller, 1967; Rubenson, 1977; Tough, 1979), Cross (1981) wrote, "None would lay claim to a fully developed theory regarding participation in adult education...and it seems reasonable now to proceed to build on the base that has been suggested by their work" (p. 122). Thus Cross advanced a Chain of Response Model to explain participation in adult learning activities.

Through her Chain of Response Model (see Figure 1) of adult learner participation, Cross (1981, p. 124) theorized that adult students engage in learning due to a number of interrelated events (points). She posited a sequence of points that, if successfully negotiated, would set the stage for the next encounter. After a series of successful encounters with each point in the Chain of Response Model, the adult would move from a state of nonparticipation to one of participation. The model consists of seven points: self-evaluation of ability (point A), attitudes about education (point B), goals and expectancy (point C),

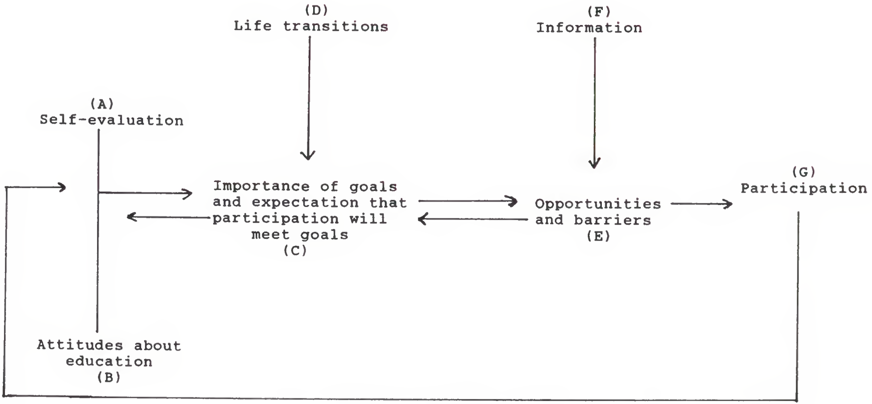

(D)
Life transitions
(F)
Information
(A)
Self-evaluation
Importance of goals and expectation that participation will meet goals
(C)
Opportunities and barriers
(E)
(G)
Participation
Attitudes about education
(B)

Figure 1. Chain of Response (COR) Model for Understanding Participation in Adult Learning Activities (from Adults as Learners by K. Patricia Cross, 1981, p. 124). Reprinted with permission.

influence of life transitions (point D), learning opportunities and barriers (point E), information (point F), and participation (point G). A more detailed explanation of each point follows.

## Self-evaluation and Attitudes Towards Education

Concerning point A, Cross (1981) contended, "Persons who lack confidence in their own abilities...avoid putting themselves to the test and are unlikely to volunteer for learning which might present a threat to their self-esteem" (p.124). She believed that attitudes toward education (point B) resulted from the learner's own past experience and were influenced by an adult's reference groups (e.g., culture, friends, etc.) and membership groups (e.g., church, union, etc.) By linking points A and B, Cross (1981) intended to show

> that there is a relatively stable and characteristic stance toward learning that makes some people eager to seek out new experiences with a potential for growth while others avoid challenges to their accustomed way of thinking or behaving...the learning-oriented personality is represented by the interaction between A & B, which derive primarily from past experience and learning. (p. 126)

## Goals and Life Transitions

Cross (1981) explained the role of goals, point C within the Chain of Response model, as follows:

> If a goal that is important to a person is likely to be achieved through further education, then the motivation at point C is strong. If the goal is not especially important or the likelihood of success is in doubt, motivation decreases accordingly. (p. 126)

Cross (1981) further explained, "Expectancy is related to self-esteem (indicated by reverse arrow)" (p. 126). Individuals with high self-esteem have confidence in their ability to be successful, whereas those with less self-esteem tend to doubt their chances of success". Concerning life transitions, point D, Cross (1981) wrote, "Related to the gradual transitions of life are more sudden dramatic changes, such as divorce, or loss of a job, which may `trigger' a latent desire for education into action" (p. 127). Point D is related to Havinghurst's (1972) `teachable moment'. Havinghurst suggested that "there are times of special sensitivity for learning certain things" (p. 7). Concerning the interaction of points C & D within the Chain of Response model, Cross (1981) wrote, "Under such circumstances, the positive forces at point C-D are sufficiently strong to counter any negative forces elsewhere and carry the individual over barriers that might stop an individual with less motivation and expectation of attaining the desired reward" (p. 145).

## Barriers, Information, and Participation

Highly motivated learners will seek out learning opportunities and overcome modest barriers. This is represented by point E in Cross's (1981) Model. Information

(Point F) provides the linkage between learner motivation and opportunities for self-improvement. "Without accurate information, point E in the model is weak because opportunities are not discovered and barriers loom large" (Cross, 1981, p. 127). The reverse arrow from E to C was drawn to indicate how "the creation of new opportunities (E) may add to an individual's expectation (C) of being able to participate successfully and therefore may raise the strength of the motivational force above the threshold level" (Cross, 1981, p. 129). Finally,the arrow from G to AB indicated "that people who have participated in adult education are more likely to do so in the future" (Cross, 1981, p. 129).

## Statement of the Purpose

The purpose of this study was to assess the influence of four demographic variables identified by Anderson and Darkenwald (1979) and the six psychological and personal environment variables identified by Cross (1981) on part-time adult collegiate participation. Given the diversity of American higher education, it is desirable to explore the association between these ten variables and participation in a variety of settings. This study represented the beginning of this exploration by focusing on the extent to which these variables were useful in predicting participation in a weekend-degree program at a single four-year college.

To accomplish the study's purpose, the following research questions were posed:

1. Is job type related to level of participation?
2. Is type of work setting related to level of participation?
3. Are there differences among groups of low, medium or high participators in terms of educational attainment and age?
4. Are there differences among groups of low, medium or high participators in terms of self-evaluation of ability, attitudes towards education, goals and expectancy, life transitions, opportunities and barriers, and information?

In view of the exploratory nature of the present study, nondirectional research hypotheses were tested.

## Justification for the Study

Given the influx of part-time adult students into America's higher education system (Breneman, 1983; Carnegie Foundation for the Advancement of Teaching, 1986; O'Keefe, 1985; Wagner, 1982) and the system's increasing reliance on part-time adult students to accomplish its educational and economic goals (Brunner, 1976; Frances, 1980), it was logical to examine adult academic participation with the most comprehensive theory of participation available.

An article on a national continuing education conference in The Chronicle Of Higher Education concluded, "Most educators at the conference agreed that programs for adults must now be made an integral part of university activities" (University Continuing Education Divisions: Up From Second Class Citizenship, 1985, p. 30). Queeny (1984) and Boyer (1987) have echoed this sentiment.

An inventory of the curricular delivery systems employed by member institutions of the National Association of State Approved Colleges and Universities and the American Council for University Planning and Academic Excellence (1983) revealed the following frequencies of types of delivery systems: evening classes (172), short attendance (155), weekend attendance (140), correspondence (114), independent study (74), nonresidential programs (70), and radio and television courses (23). For the present study, evening classes were excluded from investigation because full-time students may have been as likely to enroll in such classes as part-time adult students. The weekend attendance program type was considered to be more likely to render a "purer" arena in which to conduct the study than evening classes. Also, because of several practical problems associated with studying the other types of curricular delivery systems mentioned, those other part-time delivery approaches were excluded from investigation.

The present study contributed to the academy's understanding of part-time undergraduate adult participation and of how such participation would benefit both students and institutions. Increased knowledge about the relationship between part-time students' characteristics and their level of educational participation will enable institutional policy-makers to better understand part-time adult students and to design more accessible learning opportunities for them.

Given the explosive growth of part-time undergraduate collegiate enrollment and the absence of a theory which adequately identifies the variables associated with such participation, policy-makers in American higher education are at a disadvantage in being able to harness this growth to accomplish educational and institutional goals. Drawing on the work of Anderson and Darkenwald (1979) and Cross' (1981) Chain of Response Model, ten variables were identified which explain a large proportion of the part-time student participation phenomena. Further validation of the predictive power of these variables is needed if they are to be used to develop general recommendations for recruiting part-time students or developing academic programs that will meet their needs.

## Assumptions, Delimitations, and Limitations

### Assumptions

The assumptions upon which this study was predicated were that (a) the subjects would answer questions honestly given the anonymous nature of their self-reported responses; (b) the investigator did not bias responses by the wording or ordering of questions; and (c) respondents would not differ from nonrespondents in the survey.

### Delimitations

Study delimitations were that (a) only weekend programs would be investigated; (b) only institutions in Florida would be invited to participate; and (c) only one college would be chosen for the investigation.

### Limitations

The limitations inherent in the study were (a) the limited body of knowledge concerning Cross' Chain of Response Model; (b) the lack of ability to generalize beyond a limited population [i.e., adult participation in weekend academic programs operated by a given four-year college]; and (c) the use of an ex post facto design which limited the researcher's ability to draw causal inferences from the observed relationships between predictors and outcomes.

## Definitions

Adult education was defined as "all education embarked on by an individual after previously completed or discontinued basic education, usually after an intervening period of job experience" (Rubenson, 1977, p. 2).

An adult learner was defined as an individual over 18 years of age engaged in adult education.

Age was defined as a respondent's present age in years.

Attitude towards education was operationally defined as the sum of the respondents' ratings of a variety of learning experiences.

Barriers and opportunities were operationally defined as the sum of the ratings of the importance of those barriers listed by Cross (1981, p. 90) that prevented respondent enrollment in desired classes within his or her present academic program.

College was defined as an accredited four-year, co-educational institution.

Educational attainment was operationally defined as the respondent's current classification as either freshman, sophomore, junior, or senior.

Goals and expectancy were operationally defined as how the respondent rated his/her belief that the present academic program would meet personal, career, and academic goals, if at all.

Information was operationally defined to include the sum of the respondents' ratings of the importance of information sources about learning opportunities associated with his/her present academic program and overcoming perceived barriers.

Job setting was operationally defined to include general government, human services, education, private business, manufacturing, agriculture, and health services.

The influence of life transitions on participation in an academic program was operationally defined as the sum of the respondents' ratings of the importance of those events listed by Cross (1981, pp. 174-175) in causing or sustaining such enrollment.

Occupational status was operationally defined to include the following: unemployed, unskilled labor, service (e.g., waitress), skilled crafts (e.g., painter, farmer, carpenter), technical (e.g., computer repairman, technicians), professional (e.g., doctor, lawyer, R.N.) and managerial (e.g., administrators, charge nurse).

Participation was operationally defined to include the number of semester hours/credits earned toward a degree during the 1987-1988 academic year and the number of semesters enrolled. The three levels of participation included low (enrollment for one, two or three semesters and having earned fewer than 14 hours/credits), medium (enrollment for two or three semesters and having earned between 14 and 24 hours/credits) or high (enrollment for two or three semesters and having earned more than 24 credits).

Self-evaluation of ability was operationally defined as how the respondent rated his or her ability to perform in a variety of academic situations.

A weekend degree program was a formal undergraduate degree program conducted during the weekend where an undergraduate degree may be earned.

## Organization of the Dissertation

The dissertation consists of five chapters. Chapter 1 includes the introduction, a statement of the problem, a statement of the purpose and research questions, a justification for the study, assumptions, delimitations, limitations, and definitions of major terms. Chapter 2 contains a review of the Chain of Response Model's antecedent theories, a detailed review of the Chain of Response Model, and an analysis of the available empirical research into the Chain of Response Model. Chapter 3 contains a description of the methodology utilized by the study. Chapter 4 includes an analysis of data obtained through the use of the procedures outlined in Chapter 3. The study summary, conclusions, implications, and suggestions for further research are presented in Chapter 5.

# CHAPTER 2
# REVIEW OF RELATED LITERATURE

The following discussion is divided into three sections. The Chain of Response Model's antecedent theories are discussed in section one. The Chain of Response Model is described in section two. Empirical research into the Chain of Response Model is analyzed in section three.

## Antecedent Theories

The theoretical work of four authors provided the basis for the development of Cross's Model. These authors were Miller (1967), Rubenson (1977), Boshier (1973), and Tough (1979).

### Social Class Theory: Harry Miller (1967)

Miller (1967) incorporated Maslow's (1954) Hierarchy of Needs and Lewin's (1947) concept of Force Field Analysis. Miller drew heavily on Maslow's (1954, pp. 146-154) contention that people cannot be concerned about higher order human needs--recognition, achievements, or self-realization--until more fundamental needs--survival, safety, and belonging--have been satisfied. Miller (1967) maintained that recognition was a strong motivator for participation in learning for the middle class because this class did need not "to be greatly concerned about either survival or safety" (p. 6). Miller (1967) went on to assert, "Higher levels of education are associated with a considerable degree of persistence toward relatively distant goals, which in turn is associated with high levels of achievement need" (p. 6). Although he argued that the highest need, self-realization, was rarely dominant as a motivator, Miller (1967) did observe that "many are engaged in satisfying it at least fitfully" (p. 7).

Research data generated by several landmark national studies appear to confirm Miller's contentions concerning the use of Maslow's Hierarchy of Needs in his theory. This research has shown that those lacking a high school education seek job training (satisfying lower order needs) whereas the well-educated prefer education with a focus on personal development, recreation, or self-understanding (Carp, Peterson, and Roelfs, 1974, p. 22; Cross, 1979, p. 95; Johnstone and Rivera, 1965, p. 113). In fact, Miller (1967), contended "the early stages of adulthood are primarily concerned with the three lowest stages--getting established in a decent, stable job and beginning a family" (p. 7). Cross (1981) went on to comment, "older people, having satisfied those needs, are free to devote energy to achieving status, to enhancing achievement, and to work toward self-realization" (p. 113).

In moving beyond the role that personal needs play in adult learning participation, Miller (1967) asserted that three social variables--social class values, technological change, and associational structures--also influence adult learner participation in education. According to Miller (1967), the lower-middle class places a strong value on progress "not only because it demonstrates our virtue as a society, but because it offers hope for family movement as well" (p. 11). Education is one of the chief vehicles through which the social values of mobility, progress and status are satisfied.

Miller incorporated Lewin's (1947) concept of positive and negative forces which, when combined, form a motivational force. If enough positive forces can be marshalled, then the motivation to participate will be high. If negative forces prevail, then the motivation to participate in adult learning will be low. Appendix A represents Miller's (1967) conceptualization of the integration of Maslow's Hierarchy of Needs and Lewin's concept of Force Field Analysis in examining education for vocational competence of the lower-lower social class and Miller's (1967) view of education for vocational competence of the lower-middle class.

### Expectancy-Valence Paradigm: Kjell Rubenson (1977)

Rubenson (1977) drew his theory from the work of Victor Vroom (1964). Rubenson maintained that education, like work, was an achievement-oriented activity. Rubenson's theory of adult learners consisted of two components, valence and expectancy. Rubenson (1977) defined valence, based on Vroom's definition, "to be an attitude toward the result of an action" (p. 8). Valence could be positive (preferred outcome of an action), neutral (indifferent to the outcome of an action), or negative (did not favor the outcome of an action). Valence could vary from -1 to +1. Rubenson (1977) defined expectancy as

> a momentary belief concerning the likelihood that a particular act will be followed by a particular outcome. Expectancies may be described in terms of their strength. Maximal strength is indicated by subjective certainty that the act will be followed by the outcome while minimal (or zero) strength is indicated by subjective certainty that the act will not be followed by the outcome. (p. 9)

Rubenson (1977) conceptualized the expectancy-valence paradigm to adult learner recruitment as presented in Figure 2.

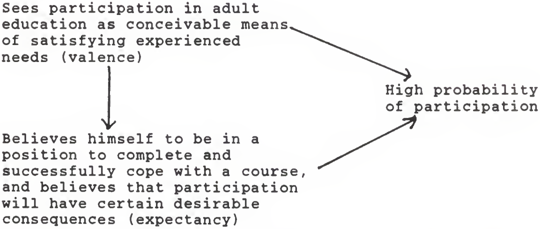

Sees participation in adult education as conceivable means of satisfying experienced needs (valence)
Believes himself to be in a position to complete and successfully cope with a course, and believes that participation will have certain desirable consequences (expectancy)
High probability of participation

Figure 2. Expectancy-valence theory applied to recruitment in adult education (from Participation in Recurrent Education: A Research Review by Kjell Rubenson (1977, p. 9). Reprinted with permission.

Once Rubenson had applied the expectancy-valence paradigm to the recruitment of adult learners, he then set the paradigm into the context of the participation research of that time, which included issues of learner self-evaluation of ability and the influence of membership or reference groups on participation decisions. Rubenson (1977) concluded that "self-evaluation and the values of the member and reference groups are of great importance in shaping a person's attitude to adult education" (p. 30).

According to Rubenson's (1977) Paradigm of Recruitment, Appendix B, participation in adult education was determined by an individual's appraisal of his/her present life space. This appraisal included the individual's subjective assessment of his/her previous experience, congenital properties, environment, and his/her current needs. The assessment of these four variables determined expectancy and influenced valence. Expectancy was a function of an individual perceiving "himself to be [1] in a position to complete and successfully cope with a course and [2] that participation will have certain desirable consequences" (Rubenson, 1977, p. 9). If an individual believed that he/she would be unable to achieve either component of expectancy, then motivation to participate would be zero.

Valence, the perception that adult education is a viable means of satisfying a need, is a composite of the individual's needs and is influenced by expectancy. Rubenson (1977) then believed that valence and expectancy combined to form a force, "The strength whereof will determine behavior"

(p. 35). In commenting on this force, Rubenson (1977) wrote, "The strength of this force in relation to other forces acting on the individual determines whether the individual will participate in adult education" (p. 38).

A Congruence Model: Roger Boshier (1973)

Boshier's (1971) research into nonparticipation and dropout behavior in noncredit continuing education in New Zealand gave rise to his congruence theory. Boshier (1973) argued that "congruence both within the participant and between the participant and his educational environment determine participation/nonparticipation and dropout/ persistence" (p. 260). In Boshier's theory, the proper match of adults to an appropriate educational environment will reduce potential incongruences and hence strengthen one's ability to participate.

Boshier (1973) viewed adult education participants as either growth- or deficiency-motivated. Growth-motivated persons are "inner-directed, autonomous, open to new experience [and]...better equipped to adapt to environmental inconsistency and disorders" (pp. 256-258). Boshier (1973) described deficiency-motivated persons as those who "seem to use work and educational activity more often for achieving gratification of lower basic needs, or as [a] means to an end, or as a response to cultural expectations" (p. 258). Boshier, (1973) did observe, "that participants are [not] entirely growth or deficiency motivated; the deficiency may apply to only one aspect of behavior" (p. 258).

Within Boshier's model, Appendix C, the individual is presented as having to maintain inner harmony within himself and with his environment. Boshier (1973) commented that, "Participation and dropout can be understood to occur as a function of the magnitude of the discrepancy between the participant's self-concept [self-congruence] and key aspects (largely people) of the educational environment" (p. 260). Nonparticipants did not enroll due to the self-perceived discrepancy between their self-concept and the educational environment (self/institution incongruence). Dropout was explained to occur when participants learned that their self-concept was incongruent with their educational environment. Other variables such as socioeconomic class, psychological status and institutional characteristics were viewed as mediating variables which triggered dropout behavior if any feelings of incongruence were present.

## Anticipated Benefits: Allen Tough (1979)

In contrast to the models of adult learner participation advanced by Miller (1967), Boshier (1973), and Rubenson (1977) for explaining participation in organized instruction, Tough (1979) examined adult learner participation in self-directed learning projects. Cross (1981) thought that Tough's work could, "provide a useful piece of the conscious forces involved in motivation for learning" (p. 122).

Tough (1979) defined a learning project

> as a series of related episodes, adding up to at least seven hours. In each episode, more than half of the person's total motivation is to gain and retain fairly clear knowledge and skill, or to produce some other lasting change in himself (p. 7).

In testing Tough's model, Tough, Abbey, and Orton (1980) assumed that adults were capable of directing their own learning and also of understanding why they wished to learn. They further maintained that anticipated benefits were derived from the person's conscious mind. Anticipated benefits form a significant portion of a person's total motivation for learning.

The model in Appendix D, as articulated by Tough, Abbey, and Orton (1980), consists of five stages: (a) engaging in a learning activity, (b) retaining the knowledge or skill, (c) applying the knowledge, (d) gaining a material reward, and (e) gaining a symbolic reward. At each stage anticipated benefits may be classified into one of three clusters: (a) pleasure-happiness, satisfaction, enjoyment; (b) self-esteem/ higher self-regard, feeling more confident, good self-image; or (c) others, i.e. people like, praise, or feel grateful to the learner.

In testing their model, Tough et al. (1980) required each study participant to imagine a noncredit learning activity about which they were enthused and which they were still engaged. Once this was done, each participant distributed 10 imaginary motivational units across a diagram "in whatever pattern would best reflect the anticipated benefits that actually motivated them to continue this learning effort" (p. 5). The "application of knowledge or skill" was the most likely stage for anticipated benefits. The others in rank order were: "engagement in learning activities", "retention of knowledge", "material reward", and "credit". The most frequently anticipated reward [benefit] was "pleasure" followed by "self-esteem" and "others".

## The Chain of Response Model

### Chain of Response Model Assumptions

The Chain of Response Model posited by Cross (1981) appears to be predicated on the following three assumptions:

> 1. Participation in a learning activity...is not a single act but the result of a chain of responses each based on an evaluation of the position of the individual in his or her environment...
> 2. Behavior [is] a constantly flowing stream rather than a series of discrete events...
> 3. Forces for participation in adult learning activities begin with the individual and move to increasingly external conditions...forces flow in both directions (p. 125).

### Discussion of the Chain Of Response Model

### Point A (self-evaluation)

Cross (1981) wrote, "The general hypothesis about the relationship of self-evaluation...to educational participation is that those with low self-confidence in their learning abilities will avoid the risk required in learning new things, basically because they do not expect to succeed" (p. 133). Miller (1967) posited that the lower-middle class, after having satisfied their basic needs as defined by Maslow

(1954), strive for higher order needs such as status or achievement. Miller (1967) also suggested that the lower middle class engaged in anticipatory socialization and thereby emulated upper middle class values such as a desire for self-development and achievement. Although Miller's (1967, p. 11-13) theory probably fits more appropriately under the Chain of Response Model point C, goals and the expectation to meet those goals, it can be inferred that those participating in adult education must evaluate their abilities to satisfy higher order needs favorably; otherwise such individuals would be unable to progress up Maslow's (1954) Hierarchy of Needs. Such movement is a cornerstone of Miller's (1967) Social Class Theory.

Rubenson (1977, pp. 20-22) concluded that an individual's self-perception was positively and directly related to participation in adult education. Rubenson found that persons who were allowed and encouraged to take initiatives in their childhood, school, or work environments demonstrated a positive self-evaluation of ability. Those individuals who were not allowed or encouraged to take such initiatives exhibited less confidence in their ability to be successful in achievement-oriented activities, such as education.

Boshier (1973) described participants as "inner-directed, autonomous and open to new experiences" (p. 256). He further commented that participants are "equipped to adapt to environmental inconsistency and disorder" (Boshier, 1973, p. 258) and that participants were governed by inner determinants.

Tough and colleagues (1980, pp. 7-8) reported that participants engaged in adult learning projects to enhance pleasure (50 percent), enhance self-esteem (41 percent) and to please others (9 percent). As with Boshier's subjects, Tough and co-workers' subjects sought to direct their own learning and satisfy their own needs. Thus, Boshier (1973), Cross (1981), Miller (1967), Rubenson (1977) and Tough (1979) all considered the relationship between a positive self-evaluation of ability and participation in adult education to be essential.

Point B (attitudes about education)

Concerning the building of positive attitudes towards education, Cross (1981) wrote

> Attitudes toward education...are presumably influenced by two things: One's own experiences and the attitudes and opinions of other people. If positive forces for participation in adult learning are to be reinforced at point B, educators must try to (1) create more positive personal experiences for more people early in their learning careers and (2) tap the support of `significant others' for educational participation. (p. 139)

In continuing her commentary, Cross (1981) went on to state

> If family, friends, and co-workers think that participation in learning activities is a good thing for adults, the Chain of Response model predicts that forces for participation at point B will be positive, resulting in a greater likelihood of participation at point G (p. 139).

Although Cross did not define attitude, a definition provided by Cattell, Radcliffe, and Sweney (1963, pp. 62-63) may be instructive. Cattell et al. defined attitude "as an individual's interest/need of a certain intensity to achieve a specific goal under a specified set of circumstances." Tough and co-workers (1980) and Miller (1967) did not directly address attitudes towards education in their theories; Boshier (1973) and Rubenson (1977) did so in their theories. Cross (1981, p. 124) and Boshier (1973, p. 260) linked attitudes and the self-evaluation of ability together in attempting to explain participation and nonparticipation in adult education. Rubenson (1977) commented, "Self-evaluation...and the values of the member and reference groups are of great importance in shaping a person's attitude to adult education" (p. 31).

Boshier's (1973) observations concerning attitudes and their link with self-evaluation appeared to have strongly influenced the composition of Cross' (1981, p. 124) Chain of Response Model. In linking self-evaluation and attitudes towards education, Cross (1981) "intend[ed] to suggest that there is a relatively stable and characteristic stance toward learning that makes some people eager to seek out new experiences with a potential for growth while others avoid challenges" (p. 126). Rubenson's (1977) suggestion that member and reference groups influenced attitudes toward education also exerted significant influence. However, Cross did not accept Rubenson's (1977) contention that past educational experiences were of minor importance.

### Point C (meeting goals and expectations of learners)

In explaining the role of point C in the model, Cross (1981) wrote, "The implication of point C in the Chain of Response model is that two conditions must be met: Participation must be successful, and successful participation must accomplish the learner's goal" (p. 141).

Rubenson's (1977) adaptation of Vroom's (1964) expectancy-valence paradigm to the recruitment of adult learners exerted a strong influence on Cross' Chain of Response Model. As with Rubenson (1977), Cross equated valence with the importance of a goal to an individual. Both Rubenson (1977) and Cross (1981) equated expectancy to an individual's assessment of the likelihood of goal accomplishment. Cross (1981) defined expectancy as, "The individual's subjective judgment that the pursuit of the goal will be successful and will lead to the desired reward" (p. 126).

Tough and colleagues (1980) reinforced Rubenson's (1977) contention that conscious decision making on the part of a prospective adult learner does influence participation. Hence, Cross gave much emphasis to goals and expectancy in developing the Chain of Response Model.

Although Boshier (1973) did not directly address the issue of goal attainment, he did argue that in growth-motivated persons "their wishes and plans are primary determiners" (p. 258). Such a descriptor suggests that goals are designed by growth-motivated persons who then seek the goal's attainment.

Common to the educational aspirations of both social classes within Miller's (1967) theory was the presence of some goal. Miller (1967) went on to observe

> Implicit in Maslow's need scheme is the notion that all humans are capable of seeking satisfaction at every need level, given two conditions...is that minimal satisfaction of the lower order levels has been achieved, and the second is that the life situation of the person both permits and encourages need seeking at a particular level. (p. 7)

Given Rubenson's (1977) work and that of Tough and co-workers (1980), it would appear that the valence-expectancy paradigm could operate where the "life situation of the person both permits and encourages need seeking" (Miller, 1967, p. 7).

Thus, both Boshier (1973) and Miller (1967) acknowledged the presence of goals in influencing an adult's decision to participate in adult education. Boshier's (1973) Congruence Model and Miller's (1967) Social Class Theory can be interpreted, in light of Rubenson's (1977) work, to include a valence-expectancy paradigm.

### Point D (responding to life transitions)

Cross (1981) wrote, "The necessity to adapt to changing circumstances of life (point D of the Chain of Response model) constitutes a powerful motivating force for learning" (p. 144). Havinghurst (1972) referred to these as "teachable moments" (p. 7). Cross maintained that "teachable moments" are "potent motivating forces" (p. 144).

As the adult passes through life's stages, there are several opportunities and needs for learning. Cross (1981, pp. 174-175) has summarized these life transitions as follows

| Phase | Age (Approximately) |
|---|---|
| Leaving Home | 18-22 |
| Moving into Adult World | 23-28 |
| Search for Stability | 29-34 |
| Becoming Own Person | 37-42 |
| Settling Down | 43-56 |
| The Mellowing | 57-64 |
| Life Review | 65+ |

In addition to life stages, there may be sudden changes (eg, divorce or job loss) that may trigger a need for education.

In commenting on the implications of point D for educators, Cross (1981) noted, "Although educators cannot do much about influencing transitions directly, they can be prepared to respond to the direction of the motivational forces so generated" (p. 145).

Although Boshier (1973) and Tough et al. (1980) failed to address the issues of life transitions in the presentation of their respective theories, Rubenson (1977) explained that the events and position within the life cycle determined the needs that motivated a person to participate in adult education. Miller (1967) argued that Maslow's Hierarchy of Needs were congruent with an individual's life cycle [life transitions]. Thus, in including the element of life transitions within the Chain of Response Model, Cross (1981) drew on the works of Rubenson (1977) and Miller (1967).

Point E (creating opportunities and removing barriers)

Cross (1981) observed, "Once the individual is motivated to participate in some form of learning activity, barriers and special opportunities for adult learning (E) are thought to play an important role" (p. 127). Cross (1981) further commented

> If adults get to this point in the Chain of Response Model with a strong desire to participate, it is likely that the force of their motivation will encourage them to seek out special opportunities and to overcome modest barriers. For the weakly motivated, modest barriers may preclude participation, while the awareness of special new opportunities for adults may enhance the motivational force for participation. (p. 127)

Concerning the creation of learning opportunities, Cross (1981) maintained, "Opening up new opportunities for adult learners has been just as important to adult participation as removing barriers" (p. 147).

In considering opportunities for learning, Boshier (1973) and Tough et al. (1980) did not directly address the issue of learning opportunity. The research upon which their theories were based involved individuals who were then involved in educational activities. Rubenson's (1977) valence-expectancy paradigm not only stressed the availability of a learning opportunity, but also the belief that participation within such an opportunity should offer a reasonable expectation of success. Miller (1967) believed that participation in adult education "depend[ed] to a great extent on the structure of opportunities available to a given social class" (p. 8).

Once a decision has been made to participate, opportunities and barriers come into play. Cross (1981, p. 98) categorized barriers into three groups: (a) situational, (b) institutional, and (c) dispositional. Situational barriers included (a) cost, (b) home responsibilities, (c) not enough time, or (d) no child care. Institutional barriers included (a) too much red tape, (b) the amount of time to complete a course, (c) the learning needed is unavailable, or (d) an inconvenient class schedule. Dispositional barriers included (a) too old to learn, (b) not enough energy, (c) tired of learning, or (d) not confident in ability.

Miller (1967) identified forces which he believed impeded or discouraged participation. For example, Miller (1967, p. 21) identified "limited access through organizational ties" and "hostility to education" as barriers for the lower-lower social class in seeking education for vocational competence. Cross (1981) would label the first as a situational barrier and the second as a dispositional barrier. Miller (1967) did not appear to identify what Cross (1981) would label as institutional barriers.

Boshier (1973) in his Congruence Model, termed barriers to adult learner participation as social, psychological, and institutional mediating variables. Boshier's (1973) three categories of mediating variables closely approximated those articulated by Cross (1981, p. 98).

Rubenson (1977, p. 36) saw barriers to participation as psychological impediments and external environmental obstacles. Psychological impediments were similar to Cross' (1981, p. 98) dispositional barriers whereas external environmental obstacles equated with Cross' situational and institutional barriers.

Cross (1981) treated barriers differently than did Miller (1967), Boshier (1973), or Rubenson (1977). Both Miller and Boshier saw barriers as negative forces impeding participation and whose removal would not necessarily increase the probability of participation. Rubenson (1977) considered lack of confidence as a psychological impediment (a barrier in Rubenson's paradigm) whereas Cross (1981) labeled a lack of confidence as point A in the Chain of Response Model. Rubenson (1977) did view the removal of barriers as increasing the probability of participation given the presence of other predisposing factors.

### Point F (information)

Cross (1981) commented, "Information (point F in the Chain of Response model) represents the critical link in bringing potential learners and providers together" (p. 149). Cross (1981) further observed "The receipt of information is embedded in the chain of responses that lead to participation at point G" (p. 151). Miller (1967), Boshier (1973) and Rubenson (1977) considered the lack of information as a barrier, while Cross (1981, p. 124) incorporated the lack of information as point F in the Chain of Response Model.

Point G (participation)

Cross (1981) defined participation within the Chain of Response Model as "adults who participated as part-time learners in organized instruction" (p. 53). In explaining what was meant by organized instruction, Cross (1981) wrote

> These learning activities are sometimes for credit but usually not; they are offered by continuing education and extension divisions as well as by industry, community agencies, and labor unions; and they are usually but not always offered in class like formats to groups of learners. Research definitions generally exclude worship and completely self-directed learning projects, but they generally do include tutorials and independent pursuit of a course of instruction that has been prepared by a professional (for example, television and correspondence study). (p. 53)

Cross (1981) did not discuss other definitions of participation.

Cross (1981) defined participation differently than Miller (1967), Boshier (1973), Rubenson (1977) or Tough et al. (1980). Miller (1967) saw participation "as an equilibrium" [which was] "a product of positive and negative forces, both psychological and situational" (p. 3). Boshier (1973) argued, "Both participation and dropout stem from an interaction of internal psychological and external environmental variables" (p. 256). Concerning dropout, Boshier (1973) wrote, "In our view, dropout is in some ways an extension of non-participation; variables associated with one are associated with the other" (p. 256).

Rubenson (1977) viewed adult participation as a form of social engagement aimed at some form of achievement. Tough et al. (1980) saw participation as "a series of episodes in which the person's primary intention is to gain and retain fairly clear knowledge and skill; the person has some definite reasons for engaging in these episodes" (p. 5). Tough et al. (1980) examined self-directed learning projects that were not conducted in a classroom.

## Review of Related Empirical Research

An exhaustive search of the literature revealed one empirical research article (Willett, 1984) which described an application of the Chain of Response Model to undergraduate adult academic participation. One study was identified in which the researcher examined adult learner participation in another academic environment (Cooke, 1986). Willett (1984) and Cooke (1986) utilized the analytical framework provided by the entire Chain of Response Model. Goodman (1986) considered only point A (self-evaluation) and point B (attitudes about education) of the Chain of Response Model. Kraskouskas (1986) examined point D (life transitions).

### External Degree Student Participation: L. Willett (1984)

Willett (1984) surveyed 41 adult male students enrolled in a weekend external undergraduate degree program. Willett's (1984) instrument assessed six of the seven "variables derived from Cross' (1981) Chain of Response Model" (p. 51). Willett (1984) administered the questionnaire once to subjects. No evidence of instrument internal consistency was reported. Data were first analyzed through application of descriptive statistics. Student demographic variables were tested using chi-squared at the p = .05 level against each of the six dependent variables identified by Willett (1984). No significant associations were found.

### Descriptive analysis of data

Seventy-nine percent of Willett's (1984) subjects indicated an intention to seek further education once their current program was completed. A majority of students reported liking previous organized learning experiences. About 98 percent of the students expected to complete a specific goal at the conclusion of their current program. Students overcame barriers to educational progress in their current program. Such barriers included maintaining energy to study, class writing assignments, and class commuting hassels. Point F (information) of the Chain of Response Model was not assessed. Willett assessed point D (life transitions) influences on student participation through the use of critical incident questions. He asked students to identify the "one positive thing in [their] life situation helping [them] to accomplish [their] education" (p. 55). Family support was the most prevalent response. Students were asked to identify negative incidents hindering their progress. The most prevalent response was financial worries. Using Willett's descriptive data, one could argue that Cross' (1981) Chain of Response Model anticipated student responses at what she would identify as Point A (self-evaluation), point B (attitudes about education and influence of reference groups) point C (goals and expectancy), point D (life transitions), point E (opportunities and barriers) and point G (participation).

### Personal-situational variables

Willett (1984) correlated four personal-situational variables (age, number of dependents, job length, and miles commuted) with various instrument items (previous school experience, assessment of program-related problems, factors influencing enrollment, and learning/studying assistance) to identify significant ($p = .05$) relationships using the Pearson-Product Moment Correlation. Concerning previous school experience, he found that (a) attitude toward high school was negatively correlated with job length ($r = -.347$), (b) job training at work was negatively correlated with the number of dependents ($r = -.568$) and miles commuted ($r = -.361$), and (c) attitudes towards independent study was negatively associated with age ($r = -.306$). Concerning program related problems, he found that student energy to study was positively related to the number of dependents ($r = .651$) and job length ($r = .398$). With respect to factors influencing enrollment decisions, class arrangement was negatively correlated with both the number of dependents (r = -.523) and job length (r = -.306); and the supervisor's influence was positively related to the number of dependents (r = .454). There were no significant correlations between the four personal-situational variables and learning/studying assistances. No other significant correlations were reported.

### Study conclusions

Willett (1984) reported

> [Students] expressed strong interest in continuing educational activities after current program; preferred training and prior learning assessments over independent study; overcame negative high school educational experiences; preferred a class schedule tailored around their work; overcame problems of completing written assignments at home; utilized the instructional program coordinator as key educational support; obtained emotional support from family; and solved on-going financial concerns. (p. 57)

He concluded that "these [personal-situational variables] can be analyzed using the Chain of Response Participation Model, which offers a useful and understandable framework for researching nontraditional students" (p. 57).

### Faculty Development: W. Cooke (1986)

Cooke (1986) investigated the extent to which the Chain of Response Model described participants and nonparticipants in faculty development activities concerning computer technology. Cooke (1986, p. 63) studied assistant, associate, and full professors at the University of Florida. Subjects were classified as participators and nonparticipators based upon the level of prior participation in faculty development activites sponsored by the University of Florida Faculty Support Center. Those subjects with at least four visits were classified as participators. Once subjects were classified, 15 participators were randomly assigned to Group I. Fifteen nonparticipators were randomly assigned to Group II. Subjects were replaced via random assignment where necessary.

Cooke's (1986) study consisted of the following three phases: (a) Chain of Response Model constructs were constitutively and operationally defined; (b) a technique was developed to assess the utility of the adapted Chain of Response Model; and (c) differences between faculty participators and nonparticipators were analyzed statistically. The techniques developed to assess the model's utility consisted of a structured interview guide and a 36-item questionnaire containing statements descriptive of the constructs contained within Cross' (1981) model. The faculty questionnaire was used as a means of triangulation for the structured interview guide. Both instruments were administered by Cooke. To determine differences between participants and nonparticipants the chi-squared test was utilized. The descriptive statistics were median scores, percentile rank, and Spearman rank correlation. For each of the Chain of Response Model's seven constructs, Cooke tested for significant differences between participators and nonparticipators and compared the level of participation to the level of the construct under investigation for Group I.

## Summary of statistical data for differences between groups

Cooke (1986, p. 103) found that Group I subjects were more likely (a) to believe that their goals respecting computer training would be met through participation in professional development activities, (b) to overcome modest barriers and seek out learning opportunities, and (c) to participate in professional development activities than Group II subjects. The failure to find significant differences between Groups I and II with respect to the self-evaluation of ability and attitudes towards education was to be expected as the sample was biased towards those two points at the outset of Cooke's (1986) study. Cooke (1986) commented, concerning subjects' positive self-evaluations of ability, that "the minimum criterion for acceptance of the model -- a positive self-evaluation by participants -- was met" (p. 75). Cooke (1986) made a similar comment concerning subjects' attitudes toward education.

Based upon Cooke's (1986) findings, the Chain of Response Model (a) identified no differences between groups concerning self-evaluation of ability, attitudes towards education and information; (b) differentiated between participants and nonparticipants on three variables (goal orientation and expectancy, opportunities and barriers, and participation); and (c) identified one variable (life transition) that exerted no influence. Group II subjects' participation appeared to be derailed at point C (opportunities and barriers). Cooke (1986, pp. 116-117) suggested ways to encourage faculty participation in computer training starting at point C within the Chain of Response Model.

### Summary of statistical data concerning levels of participation

None of the eight null hypotheses was rejected by Cooke (1986); however she did report that

> 1. There was a negative correlation between self-evaluation and level of participation [questionnaire -0.663].
> 2. There was a positive correlation between attitudes about education and level of participation [interview guide 0.246].
> 3. There was a positive correlation between information and level of participation [questionnaire 0.246] (pp. 111-112).

Although based upon only one of the data collection mechanism results, two of the three correlations were to be expected. Cross (1981) wrote, "that individuals with high self-esteem `expect' to be successful" (p. 126). Thus, the negative correlation between self-evaluation and level of participation was unexpected. Cross (1981, p. 139) predicted that those with positive attitudes toward education are likely to participate in learning. Cross (1981, p. 151) advanced a similar argument concerning information. Thus, two of the correlations would be expected.

Cooke (1986) concluded, "a high level of participation in professional development activities [was] an indication that the majority of the constructs within the Chain of Response Model are positive descriptors of the faculty [who participate in organized professional development activities]" (p. 114). Given that none of the null hypotheses concerning levels of participation and constructs within the Chain of Response Model was rejected, and that only two expected correlations were found, Cooke's (1986) conclusion may be premature.

### Self-evaluation of Ability and Education Attitudes

Goodman (1983) examined the relationship between degree of perceived threat and participation in low-threat learning activities. After surveying the literature, Goodman (1983) developed and administered a questionnaire to subjects in order to develop a taxonomy of low, medium, or high threat learning activities.

Once the threat taxonomy was developed, Goodman (1983) administered a locus of control measure (not identified) to assess self-concept of adult learners enrolled in thirty-seven different learning activities. Each of the thirty-seven learning activities was grouped by degree of threat. Under one-way analysis of variance ($p = .05$) the null hypothesis was rejected. Goodman (1983) found that adults enrolled in low-threat learning activities exhibited significantly lower levels of self-confidence than adults enrolled in high-threat learning activities, thus confirming Cross' (1981) hypothesis. Cross (1981, p. 127) proposed that adults with low levels of self-confidence are more likely to engage in low-threat learning activities.

### Influence of Life Transitions

Using semi-structured interviews, Kraskouskas (1986) examined adult learning practices in terms of life cycle transitions and stability. Cross (1981, p. 128) postulated that adults in a life transition are more open to learning, whereas in periods of stability, adults are less open to learning. Kraskouskas (1986) interviewed twenty adults between the ages of 35 and 55 years. One-half of the subjects was in a period of stability, the other half in a period of transition. Both groups described self-planned learning projects.

Adults in transition were more likely to engage in a formal degree program. The dominant learning modes were active and overt (e.g., learning by doing and experimenting). Learning projects were mostly related to work. Adults in periods of stability exhibited greater diversity in learning projects. Learning was most often home-based and self-initiated. The dominant modes of learning were subtle (e.g. discussion, reading, and observation). Kraskouskas (1986) concluded that adult learning in periods of stability was designed to support that stability.

## Summary

Cross (1981) drew her Chain of Response model from the theories of Miller (1967), Boshier (1973), Rubenson (1977), and Tough (1979). The Chain of Response Model was posited to explain adult learner participation in organized instruction. The elements of the model include (a) self-evaluation of ability, (b) attitudes about education, (c) goals and expectancy, (d) life transitions, (e) opportunities and barriers, and (f) information. Although limited, the available empirical data tend to support Cross' Chain of Response Model (Willett, 1984; Goodman, 1986; and Kraskouskas, 1986) whereas Cooke (1986) offered limited support.

# CHAPTER 3
# METHODOLOGY

This chapter contains a description of the procedures used in the study. The subsections are research design, sample, instrumentation, data collection, data analysis, and summary.

## Research Design

### Ex Post Facto Research

The study was ex post facto in design. In ex post facto research, "the researcher looks to conditions that have already occurred...and then collects data to investigate the relationship of these varying conditions to subsequent behavior" (McMillan and Schumacher, 1984, pp. 237-238). Because it is not possible to select, control, or manipulate the educational aspirations and decisions of adults, the phenomena of adult academic participation can only be studied in vitro through such a design.

Isaac and Michael (1981, pp.. 50-51) have identified the following three strengths of the ex post facto design: (a) it "is appropriate in many circumstances where the more powerful experimental method is not possible"; (b) "it yields useful information concerning the nature of phenomena"; and (c) "improvements in techniques, statistical methods and design...have made these studies more defensible."

They identified the main weakness of ex post facto designs as the "lack of control over independent variables" (p. 41). To overcome this weakness, Anderson, Ball and Murphy (1981) suggested that "an attempt [should] be made to use all background characteristics thought to be relevant" (p. 159), but Kraemer and Thieman (1987) admonished researchers to select their variables judiciously. For the present study this weakness was mitigated to a reasonable extent by selecting as independent variables those that have been previously associated with adult academic participation.

### Study Variables

Independent variables. The study's ten independent variables were educational attainment, age, job type, work setting, self-evaluation of ability, attitude towards education, goals and expectancy, life transitions, opportunities and barriers, and information. Job type and work setting were categorical variables. The remaining variables were continuous in nature.

Dependent variable. As defined by Cross (1981), participation was "[engagement in] part-time...organized instruction" (p. 53). Implicit in Cross' definition was an acknowledgment that participation may be either a dichotomous or continuous variable. Thus, for the present study, the participation continuum was divided into low, medium, and high categories. Low participation was defined to include enrollment for one, two, or three semesters and having earned fewer than 13 hours/credits. Medium participation included enrollment for two or three semesters and having earned between 14 and 24 hours/credits. High participation was defined to include enrollment for two or three semesters and having earned between 25 and 35 hours/credits.

## Sample

To ensure that the Florida school selected for inclusion in the study operated a weekend-degree program, institutional screening criteria were established. These criteria were (a) is the institution accredited; (b) is the institution co-educational; (c) does the institution have an office or other component formally charged with operating a weekend-degree program; and (d) do the majority of students attending the weekend degree program do so on a part-time basis? One or more negative responses automatically precluded an institution from participation in the study.

Institutions satisfying the eligibility criteria formed a pool of eligible schools. Four eligible institutions were identified. Through random selection, an ordered list of institutions to be invited to participate in the study was derived. The first institution had discontinued its program. The second and third institutions declined participation, citing the intrusion on valuable instructional time as the reason. The fourth, St. Leo College, located in St. Leo, Florida, agreed to participate.

Students enrolled in St. Leo College's weekend-degree program are able to select from among five Bachelor of Science degrees (a) health care administration, (b) management, (c) criminology, (d) psychology, and (e) religious studies. Program faculty are drawn from the college and adjunct specialists are appointed on a supplemental basis. Classes meet on alternative Saturdays and Sundays.

A cluster sampling procedure was used by drawing a simple random sample of 30 classes within the St. Leo's weekend-degree program. It was this investigator's experience that such classes usually contained between 10-12 students. Kraemer and Thieman (1987, p. 110) estimated that for an alpha level of .05 and a statistical power of 90 percent, 212 subjects would be needed. Of the 220 students invited to participate, 216 (98 percent) completed survey instruments. The sample comprised 57 percent of adult students enrolled during the Fall 1988 term. On the part of students, participation was voluntary and anonymous. Each student enrolled in a selected class was asked to complete a survey form, provided they had not previously done so.

## Instrumentation

### Survey Form

The survey form consisted of six self-report subtests corresponding to the six variables (self-evaluation of ability, attitudes towards education, goals and expectancy, life transitions, opportunities and barriers, and information) specified in Cross' (1981) Chain of Response Model. The format for the items was a seven point Likert response scale. A respondent selected his/her response by circling the number which represented his/her answer to each individual item. Items concerning the remaining independent variables (educational attainment, age, job type, and work setting) were found in Section G of the instrument. (See Appendix F.)

### Content Validation

According to Crocker and Algina (1986), "the purpose of a content validation study is to assess whether the items adequately represent a performance domain or construct of specific interest" (p. 218). Content validation was established by a review of the relevant literature and the judgement of an expert jury familiar with Cross' Chain of Response Model prior to the instrument's pilot testing. The review of the literature revealed three persons very familiar with Cross' theory. Each judge was contacted by telephone and agreed to examine the draft survey form's content coverage across Cross' Model. The consensus of the expert jury was to add two items to the self-evaluation subtest, three items to the attitude towards education subtest, and five items to the goals and expectancy subtest.

The pilot test was conducted in August, 1988 at St. Leo College's branch sites in Tampa and Orlando. Sixty-five students participated in the pilot study.

Pilot Testing

Isaac and Michael (1981) listed seven guidelines for field testing survey instruments. These were

> 1. Select a sample of individuals who are representative of the population toward which the questionnaire is eventually intended.
> 2. Provide space on the trial questionnaire for the respondents to make reactions and suggest changes.
> 3. Administer the pretest under conditions comparable to those anticipated in the final study.
> 4. Check the percent of responses as an estimate of what will occur in the final run; then examine the returned trial questionnaire for trouble signs--items left blank or yielding no useful information, misinterpretations, and ambiguities. Check the comments for similar indications.
> 5. Analyze the results to assess the effectiveness of the trial questionnaire to yield the information desired.
> 6. Make appropriate additions, deletions and modifications to the questionnaire.
> 7. [Consider] the overall reaction of subjects to the questionnaire--What did they like, dislike, or want modified? (pp. 135-136)

The pilot test of the survey form was conducted within an environment similar to that of the actual study. The pilot test generated the data that was used to make the necessary minor instrument modifications.

Reliability

Coefficients of internal consistency were computed to establish the reliability of the six subtests. Cronbach's alpha was the statistical procedure used to estimate the internal consistency coefficient (Crocker and Algina, 1986, p. 138). Internal consistency coefficients for these respondents on each subtest were: (a) self-evaluation of ability, .84; (b) attitudes about education, .81; (c) goals and expectancy, .88; (d) life transitions, .63; (e) opportunities and barriers, .67; and (f) information, .84.

## Data Collection

Each instrument was assigned a unique identifying control number prior to administration. All survey instruments were professionally printed.

A brief explanatory paragraph on the face of each survey instrument explained the purpose of the study, importance of each student's participation, assurance of confidentiality, and appreciation for each student's participation. To maintain consistent administration instructions across administrations, a reading card of directions was developed and utilized. (See Appendix G.)

Survey instruments were administered in classes during regularly scheduled class meetings after attendance was taken. Directions were read by either this investigator or by an assistant who was thoroughly trained in the purpose of the survey and correct administrative procedures. Survey instruments were completed in class.

## Data Analysis

### Descriptive Analysis of Data

Individual item responses and subscale scores were summarized by descriptive statistics. The descriptive statistics utilized were the mean and standard deviation.

## Inferential Analysis of Data

The following statistical or null hypotheses were tested:

1. There is no relationship between amount of participation (low, medium, or high) in weekend degree programs and job type.

2. There is no relationship between amount of participation (low, medium, or high) in weekend degree programs and work setting.

3. There is no relationship between amount of participation (low, medium, or high) in weekend degree programs and the weighted linear combination of the variables of educational attainment and age.

4. There is no relationship between amount of participation (low, medium, or high) in weekend degree programs and the weighted linear combination of the subtest scores on self-evaluation of ability, attitudes towards education, goals and expectancy, life transitions, opportunities and barriers, and information.

Data relevant to research questions one and two were analyzed through application of the chi-square test for k independent samples as described by Siegel (1956, pp. 175-179).

Data relevant to research questions three and four were analyzed using discriminant analysis. The three criterion groups were the low-, medium-, and high-participation groups. The procedure tested whether the mean vectors of scores on the independent variables for the criterion groups differed from one another (Huck, Cormier, and Bounds, 1974, p. 164). The obtained multivariate _F_ ratio and its associated Wilks' Lambda were tested for statistical significance at the .05 alpha level. When a significant relationship was found, univariate analyses of variance (ANOVA) as described by Keppel (1982, p. 35) were applied to address the question, "Where within this overall multivariate relationship do differences exist on specific independent variables?" If a statistically significant difference was identified in the ANOVA procedure, post hoc analyses using the Scheffe test (Keppel, 1982, p. 151) at the .05 alpha level were conducted to identify which of the three criterion groups differed from the others on a given variable.

## Summary

The present study employed an ex post facto design. Data were gathered through the administration of a survey instrument to 220 adult undergraduate students enrolled in a weekend-degree program at a Florida liberal arts college. The response rate was 98 percent. The instrument consisted of six Likert subscales, one corresponding to each variable in Cross' (1981) Model and a section of items on demographic characteristics. Content validation of the instrument across Cross' model was established through a review of the literature and the expert judgment of a qualified jury.

Prior to its use in the survey, the instrument was pilot tested on 65 subjects and minor changes were made. Internal consistency coefficients were computed using Cronbach's alpha.

Data were first analyzed using descriptive statistics. The relationships between level of academic participation and two categorical variables (job type and work setting) were tested through application of the chi-square statistic. Two discriminant function analyses were conducted. The first analysis was used to test for a significant relationship between participation and the combination of educational attainment and age. The second analysis was used to test for a significant relationship between participation and the combination of variables in Cross' Model. Where significant relationships were found, univariate analysis of variance was applied as a post hoc follow-up. Where necessary, the Scheffe post hoc test was utilized as well. All hypotheses were tested for significance at $p = .05$.

# CHAPTER 4
# DATA ANALYSIS

The purpose of this study was to explore the relationship between selected demographic variables and those variables identified by Cross (1981) with adult student participation in a weekend-degree program. The selected variables were educational level, age, job type, and occupational setting. The variables identified by Cross (1981) included self-evaluation of academic ability, attitudes about education, goals and expectancy, life transitions, barriers and opportunities, and sources of information. Three levels of participation were identified as follows: low, medium, and high.

Data were first analyzed using descriptive statistics (mean and standard deviation). Relationships between categorical variables (e.g., job type and participation level) were tested through application of the chi-square statistic. Two discriminant function analyses also were conducted. The first analysis was conducted to test for a significant relationship between the predictors of educational level and age and the dependent variable, level of participation. The second analysis was performed to test for a significant relationship between Cross' variables and level of participation. When significant relationships were found, a univariate analysis of variance test was applied to each predictor to test for significant differences among groups as a function of low, medium, or high participation. When significant differences among the three groups were found, the Scheffe post hoc test was applied to identify which pairs of groups were different. Significance was tested at $p = .05$ for all inferential analyses. This chapter includes a description of respondents and an analysis of data for each research hypothesis.

## Description of Respondents

As reported in Table 1, nearly one-half of respondents were between 30 and 39 years of age. Seventy percent were female. Almost 84 percent of respondents were upper division undergraduates. St. Leo College enrolls many adult students who had previously discontinued their collegiate education. During the 1987-88 academic year, 58.8 percent of respondents earned 13 or fewer credits. Concerning enrollment, 71.7 percent of respondents matriculated for two or three semesters during the 1987-88 academic year. Thus, respondents appeared to exhibit stable persistence and modest consumption of course credits.

## Data Analysis by Research Hypothesis

### Hypothesis 1

> There is no relationship between amount of participation (low, medium, or high) in weekend-degree programs and job type.

Table 1

Respondent Characteristics

| Characteristic | Number | Percent |
|---|---|---|
| Age | | |
| 18-24 | 15 | 7.0 |
| 25-29 | 31 | 14.4 |
| 30-39 | 101 | 47.0 |
| 40-49 | 61 | 28.4 |
| 50 + | 7 | 3.2 |
| Gender | | |
| Male | 64 | 29.6 |
| Female | 152 | 70.4 |
| Academic Year | | |
| Freshman | 10 | 4.6 |
| Sophomore | 25 | 11.6 |
| Junior | 85 | 39.4 |
| Senior | 96 | 44.4 |
| 1987-88 Hours Earned | | |
| $\leq$ 13 | 127 | 58.8 |
| 14-24 | 63 | 29.2 |
| 25-35 | 26 | 12.0 |
| 1987-88 Semesters Enrolled | | |
| One | 59 | 27.3 |
| Two | 56 | 25.9 |
| Three | 99 | 45.8 |

Seven job types were presented to respondents; these included (a) unemployed, (b) unskilled labor, (c) service-worker, (d) skilled trades, (e) technical worker, (f) professional, and (g) managerial. The chi-square statistic was applied as suggested by Siegel (1956). Because the seven-by-three (job type x participation level) chi-square computation yielded a table where 57 percent of cells had expected values less than five, the table (Appendix H) was collapsed based on perceived skill level as presented in

Table 2. Chi-square analysis revealed a statistically nonsignificant association between job type and weekend degree program participation level, $X^2$ (2, N = 210) = 1.009, p > .05.

Table 2

Observed Job Types

| | Participation | | | |
|---|---|---|---|---|
| Group | Low | Medium | High | Total |
| Nonprofessional | 22 | 7 | 4 | 33 |
| Professional | 102 | 51 | 24 | 177 |
| Total | 124 | 58 | 28 | 210[a] |

Note. $X^2$ (2, N = 210) = 1.009, p > .05.
[a] Six responses were missing.

## Hypothesis 2

> There is no relationship between amount of participation (low, medium, or high) in weekend-degree programs and work setting.

Seven work settings were presented to respondents; these were (a) government, (b) education, (c) human services, (d) private business, (e) manufacturing, (f) agriculture, and (g) health services. Because the seven by three (work setting x participation level) chi-square computation yielded a table where fifty-three percent of cells had expected values less than five, the table (Appendix H) was collapsed based on business sector as presented in Table 3. Chi-square analysis revealed a statistically nonsignificant association between work setting and weekend degree-program participation level, $X^2$ (4, N = 209) = 2.080, $p > .05$.

Table 3

Observed Work Settings

| | Participation Level | | | |
|---|---|---|---|---|
| Group | Low | Medium | High | Total |
| Public/Nonprofit | 50 | 18 | 11 | 79 |
| Private Business | 36 | 16 | 11 | 63 |
| Health Services | 38 | 21 | 8 | 67 |
| Total | 124 | 55 | 30 | 209[a] |

Note. $X^2$ (4, N = 209) = 2.080, $p > .05$.
[a] Seven responses were missing.

## Hypothesis 3

> There is no relationship between amount of participation (low, medium, or high) in weekend-degree programs and the weighted linear combination of the variables of educational attainment and age.

Descriptive statistics for the variables of educational attainment and age by participation level are found in Table 4. In the discriminant function analysis (Huck, Cormier, and Bounds, 1974), the multivariate F ratio of the associated Wilks' Lambda for the first discriminant function was statistically significant, $F$ (4,422) = 2.612, $p < .05$. (See Table 5.) Thus, a relationship between the demographic predictors, educational attainment and age, and participation, was established. With a three-group design, a second discriminant function can be extracted, but this function was not significant.

Table 4

Means (and Standard Deviations) for Discriminant Function Variables of Educational Attainment and Age

| Variable | Sample (n = 215) | Participation Level<br>Low (n = 127) | Medium (n = 57) | High (n = 31) |
|---|---|---|---|---|
| Educational attainment | | | | |
| M | 3.24 | 3.11 | 3.41 | 3.42 |
| SD | (.83) | (.88) | (.70) | (.81) |
| Age | | | | |
| M | 36.02 | 36.15 | 36.79 | 34.06 |
| SD | (7.79) | (8.00) | (6.81) | (8.49) |

Note. Educational attainment was freshman = 1, sophomore = 2, junior = 3, and senior = 4.

Table 5

Linear Discriminant Function Coefficient Vectors and F Ratios for Educational Attainment and Age

| Vector | Disciminant Function Coefficients<br>Low | Medium | High | Univariate F |
|---|---|---|---|---|
| Constant | -15.2232 | -16.7722 | -15.3894 | |
| Educational Attainment | 3.6708 | 4.1257 | 4.2039 | 3.61* |
| Age | 0.5264 | 0.5281 | 0.4816 | 1.28 |

Note. Wilks' Lambda = 0.9521, $F$ (4,422) = 2.612, $p < .05$.
* Significant at $p < .05$.

In a follow-up univariate analysis of variance, a significant difference in prior educational attainment among the high, medium and low participants was identified *F* (2,213) = 3.61, *p* <.05. However, under application of Scheffe's Multiple Comparisons Test, significant differences between pairs of means could not be identified. (See Table 6.) Hence, detection of the significant differences may have required examination of more complex contrasts. In a second univariate analysis of variance, no differences in age among the three participant groups were found, *F* (2,212) = 1.28, *p* > .05.

Table 6

*Scheffe's Multiple Comparisons Test for Educational Attainment and Participation Level*

| Group Comparison | Difference Between Means | Significance |
|---|---|---|
| High-medium participation | 0.0056 | NS |
| High-low participation | 0.3091 | NS |
| Medium-low participation | 0.3036 | NS |

*Note*. NS -- Nonsignificant, with *p* > .05.

### Hypothesis 4

> There is no relationship between amount of participation (low, medium, or high) in weekend-degree programs and the weighted linear combination of the subtest scores on self-evaluation of ability, attitudes towards education, goals and expectancy, life transitions, opportunities and barriers, and information.

Descriptive statistics for subtest scores are found in Table 7. Under discriminant function analysis (Huck, Cormier, and Bounds, 1974), the multivariate *F* ratio of the associated

Wilks' Lambda was found to be statistically significant, _F_ (12,416) = 1.858, _p_ < .05. (See Table 8.) Thus, a relationship between the variables identified in Cross' (1981) Chain of Response Model and participation was established. The second discriminant function that could have been extracted was not significant. The univariate F ratios obtained from the one way ANOVA follow-up procedures on each separate predictor are also shown in Table 8. Results of these analyses are discussed in the following sections.

Self-evaluation of academic ability. In a univariate analysis of variance, significant differences among the three participation-level groups were found in their self-evaluations of academic ability, _F_ (2,213) = 3.60, _p_ < .05. A post hoc analysis with Scheffe's Multiple Comparisons Test revealed differences in self-evaluations of academic ability between high and low participation groups, _p_ = .05. (See Table 9.) Generally, respondents (Table 10) were confident in their abilities to be successful in a variety of academic tasks except for group work and conducting library research and studying after meeting job obligations.

Table 7

Means (and Standard Deviations) for Subtest Scores by Level of Participation

| | | Participation Level | | |
|---|---|---|---|---|
| Variable | Sample (n = 214) | Low (n = 127) | Medium (n = 58) | High (n = 31) |
| Self-evaluation of academic ability | | | | |
| M | 52.96 | 51.83 | 53.55 | 56.48 |
| SD | (8.98) | (8.69) | (9.25) | (8.88) |
| Attitudes toward education | | | | |
| M | 99.64 | 100.08 | 97.26 | 102.26 |
| SD | (14.29) | (13.86) | (15.17) | (14.17) |
| Goals and expectancy | | | | |
| M | 85.49 | 84.77 | 85.93 | 87.61 |
| SD | (9.11) | (9.52) | (8.92) | (7.49) |
| Life transitions importance | | | | |
| M | 25.55 | 25.06 | 26.26 | 26.23 |
| SD | (3.96) | (3.74) | (3.96) | (4.63) |
| Barriers and opportunities | | | | |
| M | 20.72 | 20.72 | 20.76 | 20.61 |
| SD | (3.46) | (3.14) | (3.86) | (3.98) |
| Importance of information sources | | | | |
| M | 39.03 | 39.73 | 38.26 | 37.58 |
| SD | (10.47) | (10.37) | (10.98) | (11.82) |

Note. Maximum subtest scores were: (a) self-evaluation of academic ability, 70; (b) attitudes toward education, 140; (c) goals and expectancy, 98; (d) life transitions, 35; (e) barriers and opportunities, 28; and (f) information, 70.

Table 8

Linear Discriminant Function Vector and F Ratios for Variables in Cross' Chain of Response Model

| | Discriminant Function Coefficients | | | |
|---|---|---|---|---|
| Vector | Low | Medium | High | Univariate F |
| Constant | -71.1408 | -73.3163 | -77.2118 | |
| Self-evaluation of academic ability | 0.5424 | 0.5662 | 0.5984 | 3.60* |
| Attitudes toward education | 0.2456 | 0.2203 | 0.2575 | 1.39 |
| Goals and expectancy | 0.6146 | 0.6348 | 0.6380 | 1.31 |
| Life transitions importance | 0.7354 | 0.8590 | 0.8396 | 2.38 |
| Barriers and opportunities | 1.3206 | 1.2924 | 1.2928 | 0.02 |
| Importance of information sources | -0.1232 | -0.1311 | -0.1695 | .70 |

*Note*. Wilks' Lambda = 0.9009, $F(12,416) = 1.858$, $p < .05$.
* Significant, at $p < .05$.

Table 9

Scheffe's Multiple Comparisons Test for Self-evaluation of Academic Ability and Participation Level

| Group Comparison | Difference Between Means | Significance |
|---|---|---|
| High-medium participation | 2.932 | NS |
| High-low participation | 4.649 | S* |
| Medium-low participation | 1.717 | NS |

*Note*. NS means nonsignificant with $p > .05$.
* Significant at $p < .05$.

Table 10

Respondents' Self-evaluation of Ability to be Successful in Specific Academic Exercises

| | | Participation Level | | |
|---|---|---|---|---|
| | Sample | Low | Medium | High |
| Completing writing assignments | | | | |
| *M* | 5.8 | 5.7 | 6.0 | 5.8 |
| *SD* | 1.3 | 1.3 | 1.2 | 1.4 |
| Completing reading assignments | | | | |
| *M* | 6.1 | 6.1 | 6.2 | 6.1 |
| *SD* | 1.1 | 1.0 | 1.0 | 1.2 |
| Writing term papers | | | | |
| *M* | 5.8 | 5.7 | 5.9 | 6.1 |
| *SD* | 1.3 | 1.4 | 1.2 | 1.3 |
| Participation in discussions | | | | |
| *M* | 5.8 | 5.8 | 5.9 | 6.0 |
| *SD* | 1.2 | 1.2 | 1.2 | 0.9 |
| Getting good grades | | | | |
| *M* | 5.7 | 5.6 | 5.8 | 6.0 |
| *SD* | 0.9 | 0.9 | 0.9 | 0.9 |
| Making presentations | | | | |
| *M* | 5.1 | 5.0 | 5.3 | 5.4 |
| *SD* | 1.4 | 1.3 | 1.5 | 1.6 |
| Studying after meeting home obligations | | | | |
| *M* | 4.9 | 4.7 | 5.1 | 5.5 |
| *SD* | 1.5 | 1.5 | 1.6 | 1.4 |
| Studying after meeting job obligations | | | | |
| *M* | 3.8 | 3.8 | 3.5 | 4.4 |
| *SD* | 1.8 | 1.8 | 1.7 | 1.9 |
| Library research | | | | |
| *M* | 4.6 | 4.5 | 4.7 | 5.5 |
| *SD* | 1.6 | 1.6 | 1.7 | 1.4 |
| Group work | | | | |
| *M* | 5.1 | 4.9 | 5.4 | 5.6 |
| *SD* | 1.6 | 1.6 | 1.6 | 1.6 |

*Note*. Response options ranged from very uncertain = 1 to no opinion = 4 to very certain = 7.

Attitudes towards education. Univariate analysis of variance testing revealed no differences between levels of participation as a function of attitudes towards education, F = (2,213) = 1.39, p > .05. As noted in Table 11, respondents from the three groups combined exhibited generally positive attitudes towards a wide variety of educational experiences. It was expected that a respondent's most important source of support (Table 12) would be his or her spouse. Although the remaining support sources were rated as less than important, it appeared that the College and its instructors were viewed as significant sources of support by several respondents.

Goals and expectancy. Univariate analysis of variance revealed no differences between participation levels as a function of goals and expectancy, F (2,213) = 1.31, p > .05. Respondents expected to reach a variety of goals as a function of participation in their present program. (See Table 13.) It would appear that respondents were intrinsically motivated.

Life transitions. Univariate analysis of variance testing revealed no differences between participation levels as a function of life transitions importance, F (2,211) = 2.38, p > .05. Career progress or change were the most important life transitions affecting enrollment decisions, followed by a desire to return to school, seek a crucial promotion and second career. The remaining life

Table 11

*Respondents' Attitudes Towards Specific Educational Experiences*

| Experience | *M* | *SD* | Experience | *M* | *SD* |
|---|---|---|---|---|---|
| Present program | 6.2 | 0.8 | Grade School | 5.6 | 1.3 |
| Job training | 6.1 | 1.0 | General learning | 5.5 | 1.1 |
| Self-directed study | 5.8 | 1.1 | High School | 5.4 | 1.5 |
| Previous college | 5.6 | 1.2 | Vocational education | 4.8 | 1.2 |
| Professional continuing education | 5.6 | 1.1 | Non-credit | 4.8 | 1.3 |
| | | | Agency classes | 4.7 | 1.1 |

*Note*. Response options ranged from very negative = 1 to no opinion = 4 to very positive = 7.

Table 12

*Respondents' Important Sources of Support*

| Supporter | *M* | *SD* | Supporter | *M* | *SD* |
|---|---|---|---|---|---|
| Spouse | 5.0 | 1.9 | Co-worker | 4.3 | 1.9 |
| Family | 4.7 | 1.8 | Class members | 4.3 | 1.9 |
| College | 4.6 | 1.8 | Friends | 4.1 | 1.9 |
| Instructor | 4.6 | 1.7 | High school counselor | 3.5 | 1.6 |
| Supervisor | 4.5 | 2.0 | | | |

*Note*. Response options ranged from very unimportant = 1 to no opinion = 4, to very important = 7.

transitions, which affected 18 percent or more of respondents, centered around the family unit. (See Table 14.) It would appear that respondents were stimulated by highly personal life transitions to seek participation in the College's weekend-degree program.

Table 13

*Respondents' Goals and Expectancy*

| | Importance[a] | | Expectancy[b] | |
|---|---|---|---|---|
| Goal | *M* | *SD* | *M* | *SD* |
| Personal achievement | 6.3 | 1.0 | 6.3 | 1.0 |
| Personal development | 6.3 | 0.9 | 6.3 | 0.9 |
| Academic | 6.3 | 0.8 | 6.3 | 0.8 |
| Professional | 6.2 | 1.1 | 6.2 | 1.1 |
| Personal status | 5.8 | 1.2 | 5.8 | 1.2 |
| Income | 5.6 | 1.4 | 5.6 | 1.4 |
| Other | 3.4 | 1.3 | 5.3 | 1.3 |

[a] Response options ranged from very unimportant = 1 to no opinion = 4 to very important = 7. [b] Response options ranged from very unexpected = 1 to no opinion = 4 to very expected=7.

Table 14

*Life Transitions Affecting 18 Percent or More of Respondents' Enrollment Decisions*

| Transition | *n* | % | Transition | *n* | % |
|---|---|---|---|---|---|
| Career progress | 171 | 79.2 | Growing children | 49 | 22.7 |
| Career change | 131 | 61.1 | New hobbies | 43 | 19.9 |
| Return to school | 91 | 42.1 | Marriage | 39 | 18.1 |
| Crucial promotion | 72 | 33.3 | Making new home | 39 | 18.1 |
| Second career | 62 | 28.7 | | | |

*Note*. The remaining life transitions affecting enrollment decisions were (a) first enter into community activities, 14.4%; (b) establishing a home and continuing in community, 12.5%; (c) becoming a parent, 12%; (d) becoming a mentor, 11.6%; (e) first entering college and selecting friends, 11.1%; (f) physical limitations, 8.3%; (g) empty nest, 7.9%; (h) divorce, 6.9%; (i) children entering school, 6.5%; (j) first leaving home, 6.0%; and (k) starting first job, lost job, ending career, break with mentor, aging parents, mate selecting, remarriage, deceased mate and grandparenting, $\leq$ 5%.

Barriers and opportunities. Univariate analysis of variance revealed no differences between participation levels as a function of barriers and opportunities, $F$ (2,213) = .02, $p > .05$. The leading barriers affecting enrollment decisions were what Cross (1981) called situational barriers; these were job responsibilities, no time to study, and home responsibilities. The second cluster of barriers included program cost and course availability and is labeled by Cross (1981) as institutional barriers. The third cluster of principle barriers is what Cross called "dispositional" and included course schedule conflicts, time required to complete the degree, and no energy to study. (See Table 15.)

Information. Univariate analysis of variance revealed no differences between participation levels as a function of information importance, $F$ (2,213) = .70, $p > .05$. The two most important sources of information for respondents were the college catalog and academic advisor. The remaining sources of information appeared to exert little influence on enrollment decisions. (See Table 16.)

## Summary

The present study was guided by four research questions. The study's findings were mixed. First, there was no significant association between job type and participation level. Second, there was no significant association between work setting and participation level. Third, a discriminant function analysis revealed a significant relationship between

Table 15

Respondents' Encountered Barriers Affecting 23 Percent or More of Enrollment Decisions

| Barrier | n | Percent |
|---|---|---|
| Job responsibility | 146 | 67.6 |
| No study time | 134 | 62.0 |
| Home responsibilities | 118 | 54.6 |
| Program cost | 101 | 46.8 |
| Courses aren't available | 91 | 42.1 |
| Course schedule conflicts | 87 | 40.3 |
| Time to complete degree | 62 | 28.7 |
| No energy to study | 61 | 28.2 |
| Unopen support services | 50 | 23.1 |

Note. The remaining barriers affecting enrollment decisions were (a) can't afford full-time, 19.4%; (b) inflexible requirements, 17.1%; (c) no academic confidence, 14.8%; (d) non-understanding instructors, 13.9%; (e) school fatigue, 13.0%; (f) fear of tests, 12.5%; (g) don't enjoy studying, 11.1%; (h) no information, attendance requirements, no course interrelationship, poor student services, no place to study, excessive red tape, undecided as to learning, fail to meet requirement, no transportation, and excessive ambition, $\leq$ 8%.

Table 16

Respondents' Important Sources of Information

| Source | M | SD | Source | M | SD |
|---|---|---|---|---|---|
| Catalog | 5.6 | 1.3 | Relatives | 3.8 | 1.9 |
| Advisor | 4.9 | 1.7 | Supervisor | 3.6 | 1.9 |
| Instructor | 4.4 | 1.7 | Announcements | 3.1 | 1.6 |
| Friends | 3.9 | 1.8 | Newspaper | 2.9 | 1.5 |
| Co-workers | 3.9 | 1.8 | Media | 2.9 | 1.5 |

Note. Response options ranged from very unimportant = 1 to no opinion = 4 to very important = 7.

the two predictors, educational attainment and age, and academic participation. Fourth, a significant relationship between participation and the six variables in Cross' (1981) Chain of Response Model was detected using discriminant function analysis. A univariate analysis of variance revealed differences between low and high-level participation groups in terms of self-evaluation of academic ability. No other differences were found between participation levels as a function of educational attainment, age, or the other variables in Cross' (1981) Chain of Response Model.

# CHAPTER 5

# SUMMARY, CONCLUDING RECOMMENDATIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

In this final chapter, an overview of the study is presented. The following sections are included: (a) summary, (b) concluding recommendations, (c) implications, and (d) suggestions for further research.

## Summary

The purpose of this study was to assess the influence of the four demographic variables (educational attainment, age, job type, and work setting) identified by Anderson and Darkenwald (1979) and Cross' (1981) six variables (self-evaluation of ability, attitudes towards education, goals and expectancy, life transitions, opportunity and barriers, and information) on part-time adult collegiate participation in education. The present study was conducted within a weekend-degree program of a four-year college.

To accomplish the study's purpose, the following research questions were posed:

1. Is job type related to level of participation?
2. Is type of work setting related to level of participation?
3. Are there differences among groups of low, medium, or high participators in terms of educational attainment and age?
4. Are there differences among groups of low, medium or high participators in terms of self-evaluation of ability, attitudes towards education, goals and

expectancy, life transitions, opportunities and barriers, and information?

The findings of the present study were mixed. First, there was no significant association between job type and participation level. Second, there was no significant association between work setting and participation level. Third, a discriminant function analysis revealed a significant relationship between the two predictors, educational attainment and age, and academic participation. Fourth, a significant relationship between participation and the six variables in Cross' (1981) Chain of Response Model was detected using discriminant function analysis. Univariate analysis of variance identified differences between low and high levels of participation as a function of self-evaluation of academic ability. No other differences were found among low-, medium-, and high-participants as a function of educational attainment, age, or the other variables in Cross' (1981) Chain of Response Model.

## Concluding Recommendations

In the present study, a relationship between participation and educational attainment, age, self-evaluation of ability, attitudes towards education, goals and expectancy, life transitions, opportunities and barriers, and information under discriminant function testing was found to exist for students in a weekend college environment. Since the work of Anderson and Darkenwald (1979) and Cross (1981) was geared towards general adult educational participation, it appears logical to suggest general recruiting recommendations based upon those works, relevant literature, and data from the present study.

> Recommendation 1. The college should direct recruitment efforts toward those adults with previous college experience.

Rationale. Eighty-four percent of respondents within the present study were at least juniors. Also, respondents reported positive attitudes towards previous college experiences as well as education in general. Cross (1981) argues "that participation leads to further participation" (p. 140). It appears logical to recruit from this segment of the adult population, while still recruting first generation students.

> Recommendation 2. The college should direct recruitment efforts largely to adults between 25 and 40 years of age.

Rationale. In the present study, 61.4 percent of respondents were between 25 and 39 years of age. Similar findings have been reported by Nickens (1977) and Wagner (1982). Further, it may be useful to direct special attention to females, as females comprised 70.4 percent of the present sample. Wagner (1982) reported that females accounted for 55 percent of part-time undergraduate enrollment at four-year colleges. Recruitment efforts should also be directed at under-served males. It appears that students from this age cohort may be likely to attend.

> Recommendation 3. In order to attract adults, the college should offer a curricular delivery system which employs courses along Cross' (1981) threat continuum.

Rationale. In commenting on the relationship between an evaluation of one's ability and educational participation, Cross (1981) wrote, "Those with low self-confidence in their learning abilities will avoid the risk required in learning new things, basically because they do not expect to succeed" (p. 133). Cross (1981) speculated that some learning-threatened adults engage in low-threat learning activities before engaging in higher threat activities. Cross (1981) ranked common learning activities from least to highest threat: (a) self-directed learning projects, (b) televised courses, (c) noncredit education, (d) competency-based learning, and (e) credit classes. Cross (1981) suggested that low-threat courses be offered to potentially learning-threatened adults so that they "might receive a boost to their self-confidence and be willing to venture out of their living rooms into higher-threat learning situations" (p. 135).

> Recommendation 4. In order to attract adults toward education, the college should tap the support of membership groups and reference group influentials.

Rationale. Cross (1981) believed that "attitudes towards education...are presumably influenced by two things; one's own experiences and the attitudes of other people" (p. 138). Respondents exhibited positive attitudes towards education but were relatively uninfluenced by influentials other than their spouse and family. Cross (1981) maintained that "if family, friends, and co-workers think that participation in learning activities is a good thing for adults...

the forces for participation at point B will be positive" (p. 139). Attempting to tap the support of membership groups and influentials may help to create an environment whereby participation in education may be seen as a norm for accomplishing personal and career objectives.

> Recommendation 5. The college should advertise the capacity of the program to meet adult student personal and professional goals.

Rationale. Concerning goals and expectations, Cross (1981) argued that two conditions must be met, "participation must be successful, and successful participation must accomplish the learner's goals" (p. 141). Respondents rated intrinsic goals as most important and expected to meet those goals. Cross (1981) concluded, "the greater the intrinsic reward for learning, the less extrinsic the reward will have to be in order to overcome the barriers" (p. 144).

> Recommendation 6. The college should advertise the capacity of the program to assist adults to adapt to changing life circumstances.

Rationale. Cross (1981) commented, "The necessity to adapt to changing circumstances of life...constitutes a powerful motivating force for learning" (p. 144). Respondents indicated that the most important life transitions affecting enrollment decisions were career and job related. Cross (1981) concluded, "although educators cannot do much about influencing transitions directly, they can be prepared to respond to the direction of the motivational forces so generated" (p. 145).

> Recommendation 7. The college should advertise the available learning opportunities. The college should take steps to reduce institutional and minimize situational and dispositional barriers.

Rationale. Cross (1981) has advised, "The best advice anyone can give on the removal of barriers is to look at all the characteristics of a given program...[and] identify which groups of people are logically deterred by [its] provisions and requirements" (p. 147). Respondents to the present study most often encountered situational barriers followed by institutional and then dispositional barriers (Table 22). Cross (1981) wrote, "if education removes barriers or opens new opportunities, people's positive experience with it (education) will lead to acceptance and perhaps even (more) demand for expanded opportunities" (p. 149).

> Recommendation 8. To recruit adult students, the college should employ a variety of informational avenues to reach the intended audience.

Rationale. Concerning information dissemination, Cross (1981) wrote, "Information...represents the critical link in bringing potential learners and providers together" (p. 149). Respondents in the present study indicated two important sources of information - the college catalog and academic advisor. Cross (1981) suggested that a variety of information sources be utilized. She further stressed "the point is that receipt of information is embedded in the chain of responses that lead to participation" (Cross, 1981, p. 151).

## Implications

Student recruiting implications for the St. Leo College program derived from this study are four in number. Each recruiting implication is presented followed by a brief comment.

> Implication 1. St. Leo College should implement an orientation program to introduce collegiate life to adult students.

Comment. In the present study found a statistically significant difference between low and high participation groups concerning academic self-confidence. This investigator speculates that low participators may be enrollees who are somewhat inexperienced with modern collegiate life. This inexperience may contribute to a lack of confidence in academic ability. Boyer (1987) and Murphy (1981) have endorsed the entering student orientation concept. Based upon an analysis of data presented in Tables 10 and 15, possible content areas might include library research skills, techniques of group work, time management skills, and study skills development.

> Implication 2. St. Leo College should develop a program designed to increase currently enrolled students' perception of the amount of support provided by the College and its instructors.

Comment. Respondents reported that the college and its instructors were perceived as modestly important sources of support (Table 12). Twenty-three percent of respondents identified unopen student support services as a barrier affecting enrollment decisions (Table 15). Taffe and Rocco (1981) argue that adult student access is impeded when support services are not provided. Murphy (1981) echoed Taffe and Rocco's (1981) contention but went on to suggest that faculty must be sympathetic to adult learning styles and nontraditional needs.

> Implication 3. St. Leo College should increase the number of courses offered as well as vary the time such courses are offered.

Comment. Forty and 42 percent, respectively, of respondents reported that course unavailability and schedule conflicts affected enrollment decisions (Table 15). Murphy (1981) pointed out that courses should be available at convenient locations and times for adult students. By increasing the number of courses and varying the times such courses are offered, student convenience may be enhanced.

> Implication 4. St. Leo College should aggressively market the St. Leo College weekend-degree program.

Comment. As shown in Table 16, respondents reported the college catalog as the most important source of information followed by the academic advisor. These facts suggest that students must actively seek out the program to enroll. Membership groups appeared to exert little influence on enrollment decisions (Table 12) nor were they important sources of information (Table 16). Neither the work-place nor the printed or electronic media appear to be utilized. Cross (1981), Murphy (1981), and Boyer (1987) advocate the use of a variety of information sources in student recruitment. Further, such informational messages should stress: (a) the career enhancement possibilities of matriculation, Table 14; (b) that present students expect to accomplish personal and professional goals through enrollment, Table 13; and (c) present student satisfaction with their current degree program, Table 11.

## Suggestions for Further Research

Several suggestions for further research have been made manifest. These suggestions are

1. A comprehensive well-designed investigation of the construct validity of Cross' (1981) Model needs to be conducted. This study should include a wide variety of adults participating and not participating in undergraduate collegiate study. Further, such a study should include a variety of educational institutions, geographical areas, and curricular delivery systems.

2. In the absence of, or to supplement, a comprehensive construct validation study, small-scale, well-designed studies investigating specific groups of adult learners and their immediate educational situations should be conducted.

3. The nature of the relationship between types of jobs and work settings and adult undergraduate participation should be more fully investigated. Although the present study failed to reveal any relationship, Anderson and Darkenwald (1979) found one. The relationship, if any,

should be clarified as such knowledge has potential to assist in recruitment efforts.

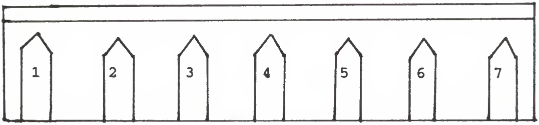
4. The under-representation of males and Black Americans in the present study causes concern for this investigator. Weekend-degree programs represent one more phase in the continuing democratization of American higher education. The exact nature and possible causes of such under-representation should be considered in future research on adult students.

# APPENDIX A

## MILLER'S FORCE FIELD ANALYSIS EXAMPLES

Positive Forces

1. Satisfied survival need
2. Satisfied safety need
3. Strong status need
4. Changing technology
5. Access through organizational ties
6. Acceptance of middle-class career drives
7. Familiarity with educational processes



Positive Forces

Figure 3: Education for Vocational Competence, Lower, Middle Social Class (from Participation of Adults in Education: A Force Field Analysis by H. L. Miller, 1967, p. 23, ERIC Document Reproduction Service No Ed 011 996). Reprinted with permission.

Positive Forces

1. Survival needs
2. Changing technology
3. Safety needs of female culture
4. Governmental attempts to change opportunity structure

Negative Forces

5. Action-excitement orientation of male culture
6. Hostility to education and to middle-class object orientation
7. Relative absence of specific, immediate job opportunities at end of training
8. Limited access through organizational ties
9. Weak family structure

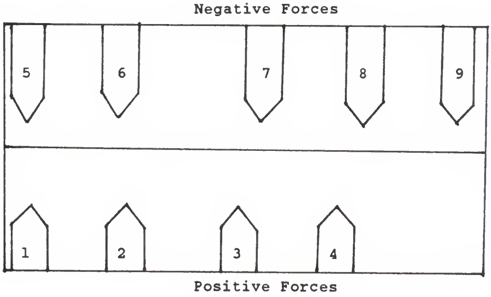


Figure 4: Education for Vocational Competence, Lower, Lower Social Class (from Participation of Adults in Education: A Force Field Analysis by H. L. Miller, 1967, p. 21, ERIC Documentation Reproduction Service No. Ed 011 996). Reprinted with permission.

# APPENDIX B

# RUBENSON'S PARADIGM OF RECRUITMENT

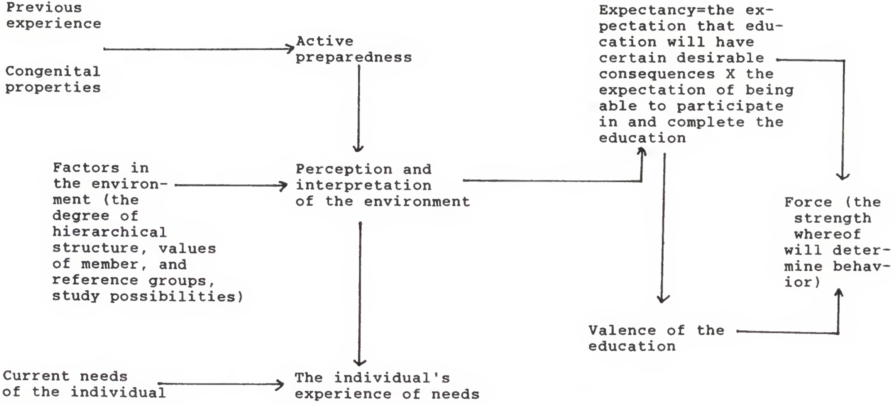

Previous experience
Congenital properties
Active preparedness
Factors in the environment (the degree of hierarchical structure, values of member, and reference groups, study possibilities)
Perception and interpretation of the environment
Current needs of the individual
The individual's experience of needs
Expectancy=the expectation that education will have certain desirable consequences X the expectation of being able to participate in and complete the education
Valence of the education
Force (the strength whereof will determine behavior)

Figure 5: Rubenson's Paradigm of Recruitment (from Participation in Recurrent Education: A Research Review by Kjell Rubenson, 1977, p. 35). Reprinted with permission.

# APPENDIX C

## BOSHIER'S CONGRUENCE MODEL

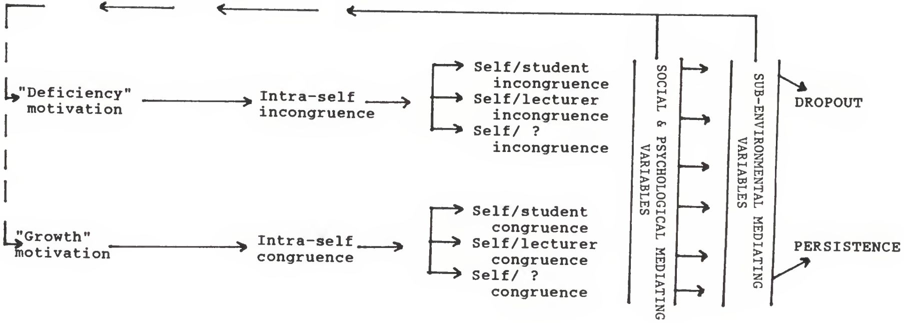


Figure 6: Boshier's Congruence Model. (from Educational Participation and Dropout: A Theoretical Model by R. Boshier, 1973, Adult Education, 23, p. 257). Reprinted with permission.

# APPENDIX D

# ANTICIPATED BENEFITS MODEL

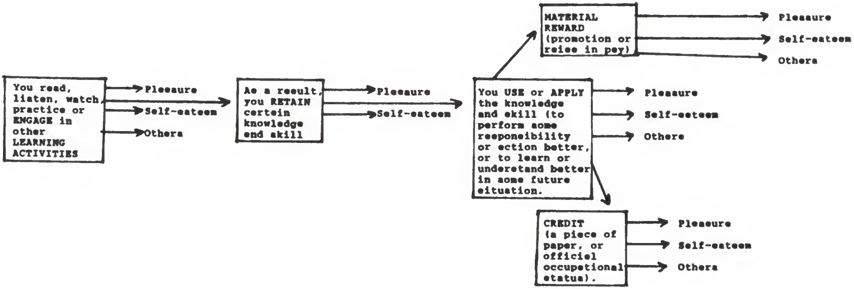

You read, listen, watch, practice or ENGAGE in other LEARNING ACTIVITIES
Pleasure
Self-esteem
Others
As a result, you RETAIN certain knowledge and skill
Pleasure
Self-esteem
You USE or APPLY the knowledge and skill (to perform some responsibility or action better, or to learn or understand better in some future situation.
Pleasure
Self-esteem
Others
MATERIAL REWARD (promotion or raise in pay)
Pleasure
Self-esteem
Others
CREDIT (a piece of paper, or official occupational status).
Pleasure
Self-esteem
Others

Figure 7: Anticipated Benefits Model. (from Anticipated Benefits from Learning by A. Tough, D. Abbey, and L. Orten, 1970, ERIC Document Reproduction Service, No. ED. 201 746). Reprinted with permission.

# APPENDIX E

# DESCRIPTIONS OF LIFE CYCLE PHASES

| Phase and Age | Marker Events | Psychic Tasks | Characteristic Stance |
|---|---|---|---|
| Leaving Home<br>18-22 | Leave home<br>Establish new living arrangements<br>Enter college<br>Start first full-time job<br>Select mate | Establish autonomy and independence from family<br>Define identity<br>Define sex role<br>Establish new peer alliances | A balance between "being in" and "moving out" of family |
| Moving into Adult World<br>23-28 | Marry<br>Establish home<br>Become parent<br>Get hired/fired/quit job<br>Enter into community activities | Regard self as adult<br>Develop capacity for intimacy<br>Fashion initial life structure<br>Build the dream<br>Find a mentor | "Doing what one should"<br>Living and building for the future<br>Launched as an adult |
| Search for Stability<br>29-34 | Establish children in school<br>Progress in career or consider change<br>Possible separation, divorce, remarriage<br>Possible return to school | Reappraise relationships<br>Reexamine life structure and present commitments<br>Strive for success<br>Search for stability, security, control<br>Search for personal values<br>Set long-range goals<br>Accept growing children | "What is this life all about now that I am doing what I am supposed to?"<br>Concern for order and stability and with "making it"<br>Desire to set long-range goals and meet them |
| Becoming One's Own Person<br>37-42 | Crucial promotion<br>Break with mentor<br>Responsibility for three-generation family; i.e., growing children and aging parents<br>For women:  empty nest; enter career and education | Face reality<br>Confront mortality; sense of aging<br>Prune dependent ties to boss, spouse, mentor<br>Reassess marriage<br>Reassess personal priorities and values | Suspended animation<br>More nurturing stance for men; more assertive stance for women<br>"Have I done the right thing?  Is there time to change?" |

| Phase and Age | Marker Events | Psychic Tasks | Characteristic Stance |
|---|---|---|---|
| Settling Down<br>45-55 | Cap career<br>Become mentor<br>Launch children; become grandparents<br>New interests and hobbies<br>Physical limitation; menopause<br>Active participation in community events | Increase feelings of self-awareness and competence<br>Reestablish family relationships<br>Enjoy one's choices and life style<br>Reexamine the fit between life structure and self | "It is perhaps late, but there are things I would like to do in the last half of my life"<br>Best time of life |
| The Mellowing<br>57-64 | Possible loss of mate<br>Health problems<br>Preparation for retirement | Accomplish goals in the time left to live<br>Accept and adjust to aging process | Mellowing of feelings and relationships<br>Spouse increasingly important<br>Greater comfort with self |
| Life Review<br>65+ | Retirement<br>Physical decline<br>Change in finances<br>New living arrangements<br>Death of friends/spouse<br>Major shift in daily routine | Search for integrity versus despair<br>Acceptance of self<br>Disengagement<br>Rehearsal for death of spouse | Review of accomplishments<br>Eagerness to share everyday human joys and sorrows<br>Family is important<br>Death is a new presence |

Figure 8: Descriptions of Life-Cycle Phases (from Adults as Learners) by K. Patricia Cross, 1981, pp. 174-175). Reprinted with permission.

# APPENDIX F

# SURVEY INSTRUMENT

Control # _ _ _ _

## INTRODUCTION

This survey is being conducted to help St. Leo college better understand the needs of adult learners enrolled in weekend degree programs. While participation is voluntary and anonymous, your help is very important. Your class was scientifically selected to participate in this survey. Please take the few minutes necessary to complete the questionnaire. Please be sure to answer all questions. Unanswered questions limit what the survey findings tell us. Again, your answers are confidential and there is no way your answers can be traced back to you. Thank you for your help in doing this survey.

Directions. Please read each question and then answer the question as shown in the example below. Please select only one answer for each choice presented.

---

EXAMPLE. When you buy food, how often do you buy food from each of the sources listed below?

| | Never | Once in a Great While | Once in While | Some-times | Usually | Always |
|---|---|---|---|---|---|---|
| 1. Grocery Store | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. Convenience Store | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. Restaurant | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. Drug Store | 1 | 2 | 3 | 4 | 5 | 6 |

A. Generally, how certain are you in your ability to successfully complete or participate in each of the academic situations listed below.

| | Very Uncertain | Uncertain | Slightly Uncertain | No Opinion | Slightly Certain | Certain | Very Certain |
|---|---|---|---|---|---|---|---|
| 1. Completing class reading assignments | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Completing class writing assignments (not term papers) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Writing term papers | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Participating in class discussions | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Getting good grades | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Studying as needed after meeting home responsibilities | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | Very Uncertain | Uncertain | Slightly Uncertain | No Opinion | Slightly Certain | Certain | Very Certain |
|---|---|---|---|---|---|---|---|---|
| 7. | Studying as needed after meeting job responbilities | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. | Working on class projects with other students | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. | Conducting library research | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. | Making individual class presentations | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

B. Attitudes and Membership Groups

1. What is (or was) your attitude towards the learning experiences listed below?

| | | Very Negative | Negative | Slightly Negative | No Opinion | Slightly Positive | Positive | Very Positive |
|---|---|---|---|---|---|---|---|---|
| a. | Grade School | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b. | High School | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. | Job training at work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d. | Self-directed learning | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| e. | Present academic program | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f. | Previous college | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| g. | Professional continuing education (e.g. CEU) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | Very Negative | Negative | Slightly Negative | No Opinion | Slightly Positive | Positive | Very Positive |
|---|---|---|---|---|---|---|---|---|
| h. | Vocational Education (e.g. Voc. Tech) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| i. | Non-Credit Classes (e.g. painting, woodworking) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| j. | Local agency classes (e.g. Red Cross, YMCA) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| k. | Other General Learning | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

2. Please indicate the importance of each person listed below in helping you decide to enroll and remain enrolled in your present program. Circle one for each factor listed.

| | | Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|---|---|
| a. | Friend's (noncoworker) recommendation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b. | Spouse's recommendation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c. | Family member's recommendation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d. | Co-worker's recommendation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|---|---|
| e. | Supervisor's recommendation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f. | Former class member's recommendation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| g. | Class instructor's recommendation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| h. | College or counsel support | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| i. | High school counselor | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

C. Please indicate how important each of the goals listed below are to you. Next, indicate how sure you think participation in your present program will help you accomplish your goals.

| How important are the following goals to you? | Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|---|
| 1. Professional goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. academic goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Personal development goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Personal status goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Personal achievement goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Income goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Other goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | Very Un-sure | Un-sure | Slightly Un-sure | No Opinion | Slightly Sure | Sure | Very Sure |
|---|---|---|---|---|---|---|---|
| How sure are you that participation in this program will help you accomplish | | | | | | | |
| 8. Professional goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. academic goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Personal development goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Personal status goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Personal achievement goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Income goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. Other goals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

D. Life Transitions (Please circle one answer per question.)

1. How many of the events listed below influenced your decision to enroll or remain in your present academic program? (Check all that apply.)

Leave Home _____

Enter college for the first time _____

Select a mate _____

Establish new living arrangements _____

Start first full time job _____

Select new friends _____

Altogether, how important were the events you checked in influencing your decision to enroll or remain in your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

2. How many of the events listed below influenced your decision to enroll or remain in your present academic program? (Check all that apply.)

| | | |
|---|---|---|
| Marriage _____ | Lost or quit a job _____ | Establish home _____ |
| Become a parent _____ | Enter into community activities _____ | Deceased mate _____ |

Altogether, how important were the events you checked in influencing your decision to enroll or remain in your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

3. How many of the events listed below influenced your decision to enroll or remain in your present academic program? (Check all that apply.)

Establish children in school _____

Consider career change _____

Return to school _____

Progress in career _____

Separation or divorce _____

Remarriage _____

New interests or hobbies _____

Altogether, how important were the events you checked in influencing your decision to enroll or remain in your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

4. How many of the events listed below influenced your decision to enroll or remain in your present academic program? (Check all that apply.)

Crucial promotion _____

Responsibility for aging parents _____

"Empty nest" _____

Break with mentor _____

Responsibility for growing children _____

Second career _____

Altogether, how important were the events you checked in influencing your decision to enroll or remain in your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

5. How many of the events listed below influenced your decision to enroll or remain in your present academic program? (Check all that apply.)

End career ______ Physical limitations ______

Became grandparent ______ Active participation in community events ______ Became mentor ______

Altogether, how important were the events you checked in influencing your decision to enroll or remain in your present academic program? (Circle your answer. Please circle only one answer.)

| | | | | | | |
|---|---|---|---|---|---|---|
| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

E. Opportunities and Barriers

1. How many of the situations listed below have prevented you from enrolling in or attending classes associated with your present academic program? (Please check all that apply.)

Cost (tuition, books, child care, etc.) _____

Job responsibilities _____

Not enough time _____

Home responsibilities _____

No transportation _____

No place to study or practice _____

Altogether, how important were the situations you checked in preventing you from enrolling in or attending classes associated with your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

2. How many of the situations listed below have prevented you from enrolling in or attending classes associated with your present academic program? (Please check all that apply.)

Don't want to go to school full-time _____

Courses aren't scheduled when I can attend _____

No information about offerings _____

Strict attendance requirements _____

Courses I want aren't available _____

Amount of time required to complete degree _____

No clear relationship between the course and my degree program _____

Altogether, how important were the situations you checked in preventing you from enrolling in or attending classes associated with your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

3. How many of the situations listed below have prevented you from enrolling in or attending classes associated with your present academic program? (Please check all that apply.)

Too much red tape getting enrolled ____

Not enough student services ____

Instructors don't understand the adult student ____

School requirements are not flexible enough ____

Don't meet requirements to stay in program ____

Academic support services (eg., library, cafeteria, etc) are not open when I can use them ____

Altogether, how important were the situations you checked in preventing you from enrolling in or attending classes associated with your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

4. How many of the situations listed below have prevented you from enrolling in or attending classes associated with your present academic program? (Please check all that apply.)

Not confident in academic ability _____

Afraid of tests _____

Tired of school _____

Don't know what to learn _____

Don't enjoy studying _____

Not enough energy and stamina _____

Don't want to seem too ambitious _____

Altogether, how important were the situations you checked in preventing you from enrolling in or attending classes associated with your present academic program? (Circle your answer. Please circle only one answer.)

| Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

F. How important have each of these sources of information been in helping you become aware of the program (and other learning opportunities associated with your program) in which you are now enrolled? Circle one answer for each source of information.

| | Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|---|
| 1. College catalog | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Advice from friends who are not co-workers | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Advice from co-workers | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Posters or announcements at work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Newspaper ads | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Radio or television announcements | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

|  |  | Very Unimportant | Unimportant | Slightly Unimportant | No Opinion | Slightly Important | Important | Very Important |
|---|---|---|---|---|---|---|---|---|
| 7. | College instructor | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. | College advising staff | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. | Supervisor | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. | Relatives | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## G. Demographics

For these last few questions, please place the letter that represents your choice of answer to the question in the blank provided. Please select one answer per question.

1. What is your present age in years? _____

2. What is your gender? _____

   a. Female
   b. Male

3. What is your current college classification? _____

   a. Freshman
   b. Sophomore
   c. Junior
   d. Senior
   e. Other

4. Of the occupational groupings presented below, which one best describes your occupation? _____

   a. Unemployed
   b. Unskilled labor (janitor, etc.)
   c. Service worker (waitress, etc.)
   d. Skilled trades (carpenter, mechanic, etc.)
   e. Technical (Repairmen, draftsman, etc.)
   f. Professional (physician, RN, etc.)
   g. Managerial (Administrator, etc.)

5. Which of the job settings listed below best describes the general context in which you work? _____
   a. General Government
   b. Education
   c. Human Services (Public)
   d. Private Business
   e. Manufacturing
   f. Agriculture
   g. Other

6. How many semester hours/credits did you earn during the 1987-88 academic year which count toward your degree? _____
   a. No credits earned during the 1987-88 academic year
   b. 13 or fewer hours/credits
   c. 14-24 hours/credits
   d. 25-35 hours/credits
   e. 36 or more hours/credits

7. For what period of time were you enrolled during the 1987-88 academic year? _____

   a. Not enrolled
   b. 1 semester
   c. 2 semesters
   d. 3 semesters

# APPENDIX G

# READING CARD

This survey is being conducted to help this college better understand the needs of adult learners enrolled in weekend degree programs. While participation is voluntary and anonymous, your help is very important. Your class was scientifically selected to participate in this survey. Please take the few minutes necessary to complete the questionnaire. Please be sure to answer all questions. Unanswered questions limit what the survey findings tell us. Again, your answers are confidential and there is no way your answers can be traced back to you. Thank you for your help in doing this survey.

# APPENDIX H

# CODE BOOK

CODE BOOK

| | Column | Item | Code |
|---|---|---|---|
| Card A | 1 | Campus Location Code | |
| | 2 | Unique Identifier | |
| | 3 | Unique Identifier | |
| | 4 | Unique Identifier | |
| | 5 | Subtest A Item 1 | Response Option 1 to 7 |
| | 6 | Subtest A Item 2 | Response Option 1 to 7 |
| | 7 | Subtest A Item 3 | Response Option 1 to 7 |
| | 8 | Subtest A Item 4 | Response Option 1 to 7 |
| | 9 | Subtest A Item 5 | Response Option 1 to 7 |
| | 10 | Subtest A Item 6 | Response Option 1 to 7 |
| | 11 | Subtest A Item 7 | Response Option 1 to 7 |
| | 12 | Subtest A Item 8 | Response Option 1 to 7 |
| | 13 | Subtest A Item 9 | Response Option 1 to 7 |
| | 14 | Subtest A Item 10 | Response Option 1 to 7 |
| | 15 | Subtest B1 Item a | Response Option 1 to 7 |
| | 16 | Subtest B1 Item b | Response Option 1 to 7 |
| | 17 | Subtest B1 Item c | Response Option 1 to 7 |
| | 18 | Subtest B1 Item d | Response Option 1 to 7 |
| | 19 | Subtest B1 Item e | Response Option 1 to 7 |
| | 20 | Subtest B1 Item f | Response Option 1 to 7 |
| | 21 | Subtest B1 Item g | Response Option 1 to 7 |
| | 22 | Subtest B1 Item h | Response Option 1 to 7 |
| | 23 | Subtest B1 Item i | Response Option 1 to 7 |
| | 24 | Subtest B1 Item j | Response Option 1 to 7 |
| | 25 | Subtest B1 Item k | Response Option 1 to 7 |
| | 26 | Subtest B2 Item a | Response Option 1 to 7 |
| | 27 | Subtest B2 Item b | Response Option 1 to 7 |
| | 28 | Subtest B2 Item c | Response Option 1 to 7 |
| | 29 | Subtest B2 Item d | Response Option 1 to 7 |
| | 30 | Subtest B2 Item e | Response Option 1 to 7 |
| | 31 | Subtest B2 Item f | Response Option 1 to 7 |
| | 32 | Subtest B2 Item g | Response Option 1 to 7 |
| | 33 | Subtest B2 Item h | Response Option 1 to 7 |
| | 34 | Subtest B2 Item i | Response Option 1 to 7 |
| | 35 | Subtest C Item 1 | Response Option 1 to 7 |
| | 36 | Subtest C Item 2 | Response Option 1 to 7 |
| | 37 | Subtest C Item 3 | Response Option 1 to 7 |
| | 38 | Subtest C Item 4 | Response Option 1 to 7 |
| | 39 | Subtest C Item 5 | Response Option 1 to 7 |
| | 40 | Subtest C Item 6 | Response Option 1 to 7 |
| | 41 | Subtest C Item 7 | Response Option 1 to 7 |
| | 42 | Subtest C Item 8 | Response Option 1 to 7 |
| | 43 | Subtest C Item 9 | Response Option 1 to 7 |
| | 44 | Subtest C Item 10 | Response Option 1 to 7 |
| | 45 | Subtest C Item 11 | Response Option 1 to 7 |
| | 46 | Subtest C Item 12 | Response Option 1 to 7 |
| | 47 | Subtest C Item 13 | Response Option 1 to 7 |
| | 48 | Subtest C Item 14 | Response Option 1 to 7 |

| | Column | Item | Code | |
|---|---|---|---|---|
| | 49 | Subtest D Item 1: | Leave Home | 0 = No 1 = Yes |
| | 50 | | First College | 0 = No 1 = Yes |
| | 51 | | Select Mate | 0 = No 1 = Yes |
| | 52 | | New Arrange. | 0 = No 1 = Yes |
| | 53 | | First Job | 0 = No 1 = Yes |
| | 54 | | Select Friends | 0 = No 1 = Yes |
| | 55 | | Importance | Responses 1 to 7 |
| | 56 | Subtest D Item 2: | Marriage | 0 = No 1 = Yes |
| | 57 | | Job | 0 = No 1 = Yes |
| | 58 | | Est. Home | 0 = No 1 = Yes |
| | 59 | | Parent | 0 = No 1 = Yes |
| | 60 | | Com. Act | 0 = No 1 = Yes |
| | 61 | | Dead Mate | 0 = No 1 = Yes |
| | 62 | | Importance | Responses 1 to 7 |
| | 63 | Subtest D Item 3: | Kids School | 0 = No 1 = Yes |
| | 64 | | Return Sch. | 0 = No 1 = Yes |
| | 65 | | Remarr. | 0 = No 1 = Yes |
| | 66 | | Career | 0 = No 1 = Yes |
| | 67 | | New Hobbies | 0 = No 1 = Yes |
| | 68 | | Career Change | 0 = No 1 = Yes |
| | 69 | | Divorce | 0 = No 1 = Yes |
| | 70 | | Importance | Responses 1 to 7 |
| | 71 | | Card A | |
| Card B | 1 | Campus Location Code | | |
| | 2 | Unique Identifier | | |
| | 3 | Unique Identifier | | |
| | 4 | Unique Identifier | | |
| | 5 | Subtest D Item 4: | Promotion | 0 = No 1 = Yes |
| | 6 | | Aging | 0 = No 1 = Yes |
| | 7 | | Empty | 0 = No 1 = Yes |
| | 8 | | Mentor | 0 = No 1 = Yes |
| | 9 | | Grow Kids | 0 = No 1 = Yes |
| | 10 | | 2nd Career | 0 = No 1 = Yes |
| | 11 | | Importance | Responses 1 to 7 |
| | 12 | Subtest D Item 5: | End Career | 0 = No 1 = Yes |
| | 13 | | Phy. Limit | 0 = No 1 = Yes |
| | 14 | | Grandparent | 0 = No 1 = Yes |
| | 15 | | Comm. Event | 0 = No 1 = Yes |
| | 16 | | Became Mentor | 0 = No 1 = Yes |
| | 17 | | Importance | Responses 1 to 7 |
| | 18 | Subtest E Item 1: | Job Resp. | 0 = No 1 = Yes |
| | 19 | | No Transport. | 0 = No 1 = Yes |
| | 20 | | Cost | 0 = No 1 = Yes |
| | 21 | | No Time | 0 = No 1 = Yes |
| | 22 | | No Study Pl. | 0 = No 1 = Yes |
| | 23 | | Home Resp. | 0 = No 1 = Yes |
| | 24 | | Importance | Responses 1 to 7 |
| | 25 | Subtest E Item 2: | No School | 0 = No 1 = Yes |
| | 26 | | No Info. | 0 = No 1 = Yes |
| | 27 | | Time Req. | 0 = No 1 = Yes |
| | 28 | | Attend. Req. | 0 = No 1 = Yes |
| | 29 | | No Attend | 0 = No 1 = Yes |

| Column | Item | Code | |
|---|---|---|---|
| 30 | | No Courses | 0 = No 1 = Yes |
| 31 | | No Relation. | 0 = No 1 = Yes |
| 32 | | Importance | Responses 1 to 7 |
| 33 | Subtest E Item 3: | Red Tape | 0 = No 1 = Yes |
| 34 | | No Understand | 0 = No 1 = Yes |
| 35 | | Can't Stay | 0 = No 1 = Yes |
| 36 | | No Stud. Serv | 0 = No 1 = Yes |
| 37 | | No Flex. Req. | 0 = No 1 = Yes |
| 38 | | No Acad. Supp. | 0 = No 1 = Yes |
| 39 | | Importance | Responses 1 to 7 |
| 40 | Subtest E Item 4: | No Confidence | 0 = No 1 = Yes |
| 41 | | Tired School | 0 = No 1 = Yes |
| 42 | | No Energy | 0 = No 1 = Yes |
| 43 | | Don't Learn | 0 = No 1 = Yes |
| 44 | | Afraid Tests | 0 = No 1 = Yes |
| 45 | | Enjoy Study | 0 = No 1 = Yes |
| 46 | | Too Ambitious | 0 = No 1 = Yes |
| 47 | | Importance | Responses 1 to 7 |
| 48 | Subtest F Item 1 | Responses 1 to 7 | |
| 49 | Subtest F Item 2 | Responses 1 to 7 | |
| 50 | Subtest F Item 3 | Responses 1 to 7 | |
| 51 | Subtest F Item 4 | Responses 1 to 7 | |
| 52 | Subtest F Item 5 | Responses 1 to 7 | |
| 53 | Subtest F Item 6 | Responses 1 to 7 | |
| 54 | Subtest F Item 7 | Responses 1 to 7 | |
| 55 | Subtest F Item 8 | Responses 1 to 7 | |
| 56 | Subtest F Item 9 | Responses 1 to 7 | |
| 57 | Subtest F Item 10 | Responses 1 to 7 | |
| 58-59 | Response Options | 00 - 99 | |
| 60 | Response Options | a - b | |
| 61 | Response Options | a - e | |
| 62 | Response Options | a - g | |
| 63 | Response Options | a - g | |
| 64 | Response Options | a - e | |
| 65 | Response Options | a - d | |
| 66 | Response Options | 1 - 3 | |
| 67 | End Card B | | |

# APPENDIX I

## SEVEN-BY-THREE CELL $X^2$ TABLE

Table 17

Observed Job Type Frequencies in Seven-by-Three $X^2$ Table

| | Participation Level | | | |
|---|---|---|---|---|
| Group | Low | Medium | High | Total |
| Unemployed | 3 | 0 | 3 | 6 |
| Unskilled Labor | 2 | 0 | 0 | 2 |
| Service Worker | 8 | 1 | 2 | 11 |
| Skilled Trades | 6 | 2 | 1 | 9 |
| Technical | 6 | 4 | 1 | 11 |
| Professional | 69 | 36 | 15 | 120 |
| Managerial | 33 | 15 | 9 | 57 |
| Total | 127 | 58 | 31 | 216 |

Note. $X^2$ $(12, N = 216) = 11.881$, $p > .05$. Fifty-seven percent of cells had expected values less than five.

Table 18

Observed Work Setting Frequencies in Seven by Three $X^2$ Table

| | Participation Level | | | |
|---|---|---|---|---|
| Setting | Low | Medium | High | Total |
| Government | 25 | 11 | 2 | 38 |
| Education | 8 | 3 | 4 | 15 |
| Human Services | 17 | 4 | 5 | 26 |
| Private Business | 32 | 13 | 9 | 54 |
| Manufacturing | 3 | 3 | 2 | 8 |
| Agriculture | 1 | 0 | 0 | 1 |
| Health Services | 38 | 21 | 8 | 67 |
| Total | 124 | 55 | 30 | 209[a] |

Note. $X^2$ (14, $N$ = 209) = 10.015, $p > .05$. Seven responses were missing. Fifty-three percent of cells contained expected values less than five.

# APPENDIX J

## CORRELATIONAL MATRIX

Table 19

Correlational Matrix by Sample and Participation Level for Discriminant Function Variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Sample (n=216) | | | | | | | | |
| 1. Age | 1.000 | .176 | .092 | -.004 | -.125 | -.069 | -.076 | .005 |
| 2. Education | | 1.000 | .123 | .028 | -.039 | -.114 | -.003 | -.108 |
| 3. Ability | | | 1.000 | .028* | .184* | .071 | -.128 | .143* |
| 4. Attitudes | | | | 1.000 | .449* | .194* | .043 | .574* |
| 5. Goals | | | | | 1.000 | .254* | .216* | .267* |
| 6. Transitions | | | | | | 1.000 | .301* | .162* |
| 7. Barriers | | | | | | | 1.000 | .046 |
| 8. Information | | | | | | | | 1.000 |
| Low Participation (n=127) | | | | | | | | |
| 1. Age | 1.000 | .252* | .043 | .052 | -.203* | -.023 | -.164 | .062 |
| 2. Education | | 1.000 | .145 | .120 | -.033 | -.129 | -.047 | -.079 |
| 3. Ability | | | 1.000 | .285* | .175* | -.020 | -.070 | .247* |
| 4. Attitudes | | | | 1.000 | .474* | .082 | .018 | .625* |
| 5. Goals | | | | | 1.000 | .236* | .281* | .216* |
| 6. Transitions | | | | | | 1.000 | .350* | .105 |
| 7. Barriers | | | | | | | 1.000 | -.058 |
| 8. Information | | | | | | | | 1.000 |

Table 19--continued

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Medium Participation (n = 57) | | | | | | | | |
| 1. Age | 1.000 | -.018 | .175 | -.098 | -.058 | -.048 | .011 | -.126 |
| 2. Education | | 1.000 | -.020 | -.208 | -.063 | -.310* | .076 | -.100 |
| 3. Ability | | | 1.000 | .051 | .101 | -.168 | -.250 | .010 |
| 4. Attitudes | | | | 1.000 | .486* | .205 | .044 | .459* |
| 5. Goals | | | | | 1.000 | .305* | .128 | .450* |
| 6. Transitions | | | | | | 1.000 | .268* | .202 |
| 7. Barriers | | | | | | | 1.000 | .199 |
| 8. Information | | | | | | | | 1.000 |
| High Participation (n=32) | | | | | | | | |
| 1. Age | 1.000 | .156 | .258 | .000 | .192 | -.234 | .059 | -.039 |
| 2. Education | | 1.000 | .096 | .089 | -.187 | .018 | .031 | -.159 |
| 3. Ability | | | 1.000 | .222 | .297 | .087 | -.088 | .119 |
| 4. Attitudes | | | | 1.000 | .279 | .608* | .137 | .638* |
| 5. Goals | | | | | 1.000 | .190 | .175 | .224 |
| 6. Transitions | | | | | | 1.000 | .245 | .352 |
| 7. Barriers | | | | | | | 1.000 | .084 |
| 8. Information | | | | | | | | 1.000 |

* $p < .05$.

# REFERENCES

Anderson, S. B., Ball, S. and Murphy, R. T. (1981). Encyclopedia of educational evaluation. San Francisco: Jossey-Bass.

Anderson, R. A. & Darkenwald, G. (1979). Participation and persistence in American adult education. New York: College Entrance Examination Board.

Boshier, R. (1971). Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. Adult Education, 22 (2), 3-26.

Boshier, R. (1973). Educational participation and dropout: A theoretical model. Adult Education, 23 (4), 255-282.

Boyer, E. L. (1987). College: The undergraduate experience in America. New York: Harper & Row.

Breneman, D. W. (1983). The coming enrollment crisis. Change, 15 (2), 14-19.

Brunner, S. (1976). The student body, 1986. Compact, X (4), 9-12.

The Carnegie Foundation for the Advancement of Teaching (1986). Part-timers: Myths and realities. Change, 18 (4), 49-53.

Carp, A., Peterson, R., & Roelfs, P. (1974). Adult learning interests and experiences. In K. P. Cross and J. R. Valley (Eds.), Planning non-traditional programs: An analysis of the issues for postsecondary education (pp. 11-52). San Francisco: Jossey-Bass.

Cattell, R., Radcliffe, J. & Sweney, A. (1963). The nature and measurement of components of motivation. Genetic Psychology Monographs, 68, 49-211.

Cooke, W. (1986). An application of Cross' chain of response model for describing faculty who participate in professional development activities (Doctoral Dissertation, University of Florida, 1986). Dissertation Abstracts International, 47106A, 2041.

Crocker, L. & Algina, J. (1986). Introduction to classical and modern test theory. New York: Holt, Rinehard, & Winston.

Cross, K. P. (1979). Adult learners: Characteristics, needs, and interests. In R. E. Peterson (Ed.), Lifelong learning in America: An overview of current practices, available resources, and future prospects (pp. 75-141). San Francisco: Jossey-Bass.

Cross, K. P. (1981). Adults as learners. San Francisco: Jossey-Bass.

Cross, K. P. & Zusman, A. (1979). The needs of nontraditional learners and the response of nontraditional programs. In C. B. Stafford (Ed.), An evaluative look at nontraditional postsecondary education (pp.47-63). Washington, D. C.: National Institute of Education.

Frances, L. (1980). College enrollment trends: Testing the conventional wisdom against the facts. Washington, D. C.: American Council on Education.

Goodman, D. L. (1986). Self-concept as a learner and level of threat in learning activities: Potential inhibitors of adults' participation in education (Doctoral Dissertation, Kansas State University, 1983). Dissertation Abstracts International, 44/12A, 3573.

Havinghurst, R. J. (1972). Developmental tasks and education (3rd ed.). New York: McKay.

Houle, C. O. (1961). The inquiring mind. Madison: University of Wisconsin Press.

Huck, S. W., Cormier, W. H., & Bounds, W. G. (1974). Readings in statistics and research. New York: Harper & Row Publishers.

Isaac, S. & Michael, W. B. (1981). Handbook in research and evaluation: For education and the behavioral sciences (2nd ed). San Diego: Edits Publishers.

Johnstone, J. W. & Rivera, R. J. (1965). Volunteers for learning. Chicago: Aldine.

Keppel, G. (1982). Design and analysis: A researcher's handbook. (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall Publishers.

Kraemer, H. C. and Thieman, S. (1987). How many subjects?: Statistical power analysis in research. Beverly Hills: Sage Publications.

Kraskouskas, G. (1986). Adult learning practices: Transitions and stability (Doctoral Dissertation, Harvard University, 1986). Dissertation Abstracts International, 47/06A, 1982.

Lechman, T. (1975). Educational outcomes from contract learning at Empire State College. (Paper presented at the 30th National Conference on Higher Education, American Association for Higher Education, Washington, D.C.).

Lewin, K. (1947). Frontiers in group dynamics: Concept, method, and reality in social science. Human Relations, 1 (1), 5-41.

McMillan, J. H. and Schumacher, S. (1984). Research in education. Boston: Little, Brown and Company

Maslow, A. H., (1954). Motivation and personality. New York: Harper & Row.

Miller, H. L. (1967). Participation of adults in education: A force field analysis. Boston: Center for the Study of Liberal Education for Adults, Boston University. (ERIC Document Reproduction Service No. ED 011 996).

Murphy, L. R. (1981). Campus planning of adult degree programs. In R. H. Miller (Ed.), Providing access to alternative college programs (pp. 7-32). New Rochelle, NY: The Scarecrow Press.

National Association of State Approved Colleges and Universities and American Council for University Planning and Academic Excellence (1983). Directory of United States traditional and alternative colleges and universities. Washington, D. C.: DC Lafayette Publishers Group.

Nickens, J. M. (1977). Who takes community service courses and why. Community/Junior College Research Quarterly, 2 (1), 11-19.

O'Keefe, M. (1985). What ever happended to the crash of '80, '81, '82, '83, '84, '85. Change, 17 (3), 37-41.

Olski, K. (1980). Problems and issues raised by returning adults. Alternative Higher Education, 5 (2), 100-105.

Queeny, D. (1984). The role of the university in continuing professional education. Educational Record, 65 (3), 13-17.

Rubenson, K. (1977). Participation in recurrent education: A research review. Paper presented to national delegates at a meeting on Developments in Recurrent Education, Paris.

Siegel, S. (1956). Nonparamatric statistics for the behavioral sciences. New York: McGraw-Hill Book Company.

Sosdian, C. P. & Sharp, L. M. (1978). The external degree as a credential: Graduates' experiences in employment and further study. Washington, D.C.: National Institute of Education.

Taffe, T. & Rocco, T. N. (1981). Access to higher education for adults. In R. H. Miller (Ed.), Providing access to alternative college programs (pp. 1-6). New Rochelle, NY: The Scarecrow Press.

Tough, A. (1979). The adult's learning projects: A fresh approach to theory and practice in adult learning (2nd ed.). Austin: Learning Concepts.

Tough, A., Abbey, D., & Orton, L. (1980). Anticipated benefits from learning (preliminary report). Toronto: Ontario Institute for Studies in Education, Department of Adult Education. (ERIC Document Reproduction Service No. ED 201 746).

Udinsky, B. F., Osterlind, S. J., & Lynch, S. W. (1981). Evaluation resource handbook. San Diego: Edits Publishers.

University Continuing Education Divisions: Up from Second-Class Campus Citizenship. The Chronical of Higher Education, 30 (8), 23, 26. August 24, 1985.

Vinson, K. (1982). Institutional goals: Their impact on adult learners. Alternative Higher Education, 7 (1), 52-56.

Vroom, V. (1964). Work and motivation. New York: Wiley & Sons.

Wagner, A. P. (1982). Postcompulsory education and training: An inventory of programs and sources of support. Education and Urban Society, 14 (3), 271-300.

Willett, L. H. (1984). Analysis of external degree student participation and attitudinal variables. Innovative Higher Education, 9 (1), 48-58.

# BIOGRAPHICAL SKETCH

Charles D. Hale was born in Los Angeles, California, on January 27, 1954, to Roland and JoAnne Hale. After graduating from Callaway High School in Jackson, Mississippi, he attended junior college and graduated from the University of Southern Mississippi in 1977, with a Bachelor of Science in health education. On September 10, 1977, he married Dr. Dilna M. Victor in Ottawa, Ontario, Canada.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

James L. Wattenbarger
James L. Wattenbarger, Chairman
Professor of Educational
Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Education.

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